SUPPLEMENTS TO THE BULLETIN OF THE HISTORY OF MEDICINE

Editor: HENRY E. SIGERIST
Associate Editor: GENEVIEVE MILLER

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PHILOSOPHY AND MEDICINE IN ANCIENT GREECE

With an Edition of
Περὶ ἀρχαίης ἰητρικῆς

BY

W. H. S. JONES, LITT. D., F. B. A.

BALTIMORE
THE JOHNS HOPKINS PRESS
1946

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PREFACE

This study was begun eight years ago, and until his death the late Professor F. M. Cornford devoted his time and skill to helping me. I have spent three years on completing the task he began, and am responsible for any errors it may contain.

He would have liked to thank the authorities of the Institute of the History of Medicine for their kind generosity in publishing the results of our joint labours. I must do so for him, and also dedicate this little work to the memory of a scholar to know whom was a continual inspiration.

To Professor Ludwig Edelstein I owe a debt of gratitude which I can never repay. He has always been ready with helpful advice, and I am ashamed that my work is not worthier of his enthusiastic assistance.

W. H. S. J.

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SECTION I

THE PRE-HIPPOCRATICS AND PLATO

So far as is known Ionian philosophy was not connected with medicine in any way. It was, in fact, a thing apart, and limited to a narrow field, being occupied with speculation about primal matter, world-stuff, the ultimate material out of which the Universe, with its infinite variety, was thought to be composed. But although thus limited the theme of philosophy was sublime; it dealt with *τὰ θεῖα* or *τὰ μετέωρα*, as the Greeks themselves realised. Some seventy years passed from the birth of philosophic thought in Thales before philosophers dimly perceived that their theme was perhaps not unconnected with man and man's physical make-up (*τὰ ἀνθρώπινα*).

The Pythagoreans

Not unnaturally this widening of the scope of philosophy began in the famous Pythagorean "school" or "order." About this remarkable, very un-Greek community we know but little, although we are well acquainted with the tenets of its later adherents. The dispersion of the school (early fifth cent. ?) and the lateness of the authorities for the work of its founder render it impossible to do more than to guess at his ideals and methods of attaining them. The prime motive however of Pythagoras was a desire to establish a society favouring or enforcing a special mode of life. Dissatisfaction with the City-State as a means of fostering corporate life led him to hope and believe that a better life could be achieved in a smaller society, knitted together by a stricter discipline, and devoted to the ideal of *mens sana in corpore sano*, with special stress laid upon the healthy mind, to which the healthy body was but a means.

Such a community was bound to have a deep interest in diet, regimen and medicine generally. Diet especially engaged its attention, although we can be sure that asceticism and superstition were also motives that influenced the Pythagoreans in their adoption of vegetarianism.

This interest in medicine was strengthened by Pythagorean devotion to the sciences generally. The brotherhood cultivated many "crafts" (*τέχναι*), notably mathematics and music. These pursuits were followed in no amateurish manner, but led to several important discoveries in difficult spheres of research.

At this point in our inquiry we are met by a puzzle of a type very common in the history of thought, when we can give a very probable solution of a problem, but fail to find evidence amounting to proof—even to that modified form of proof which satisfies historians as contrasted with students of the natural sciences.[1] The question presenting itself is this: did the Pythagoreans hope to base a philosophy of reality upon a foundation of scientific laws? Was philosophy to be entirely a matter of *ὑποθέσεις*, rational postulates on the nature of the region removed from the ken of our senses, or was it to be a structure built upon the formulae worked out by scientific observation? Was philosophy a thing apart, or was it an *ἐπιστήμη ἐπιστημῶν*, a "science of sciences"?

The evidence bearing upon the question is both suggestive and inconclusive. In the first place we have two fragments of Heraclitus,[2] the second of which is by far the more pertinent, yet according to Diels of doubtful authenticity. They may be translated:—

(1) Much learning [3] does not teach understanding, or it would have taught Hesiod and Pythagoras, as well as Xenophanes and Hecataeus.

(2) Pythagoras, son of Mnesarchus, practised research more than any other man, and choosing from these writings claimed as his own a wisdom that was only much learning, bad art.[4]

In these fragments (or fragment, if one be not authentic) we have the adverse verdict of a philosopher, that is, of one who believed in a reality intuitively apprehended by reason with the help of *ὑποθέσεις*, a verdict directed against faith in the "learning of many things." In the fragment supposed by Diels to be spurious Pythagoras is blamed for attempting to make a *σοφία* out of *πολυμαθία* and *κακοτεχνία*. This evidence is (1) conclusive proof that Pythagoras valued the *τέχναι*, and is also (2) not inconsistent with the view that he attempted to base a philosophy upon them.

As a matter of fact his philosophy was mainly based upon, not perhaps the *τέχναι*, but upon one of them, the one which, at that early period, seemed the most likely to be of assistance; this was geometry. We know that the early Pythagoreans regarded geometrical numbers as the real

[1] A scientific proof differs from an historical proof in that science demands verification by experiment, while history (experiment being impossible) will accept, as a law-court does, evidence that points to the conclusion that such and such is, in all reasonable probability, the truth.

[2] 40 and 129 Diels; 16 and 17 Bywater.

[3] *πολυμαθίη*.

[4] *κακοτεχνίη*: Burnet suggests "imposture."

essence of things. Apparently the other *τέχναι*, medicine included, did not satisfy the earlier Pythagoreans as a safe foundation for metaphysics. There was, however, a great thinker, in close connection with the brotherhood if not actually a member of it, who brought medicine and philosophy very close together.

Alcmaeon

I refer to Alcmaeon of Croton, whose *floruit* may be put at about 500 B. C.[5] This physician and his influence upon Greek philosophy—he was more interested in medicine than in speculation—have been discussed with German thoroughness by his best editor.[6] But no historian appears to have appreciated the unique position of Alcmaeon in the history of thought. For this reason it will be well to give here translations, perhaps more correctly styled paraphrases, of the passages in ancient authors that supply us with our most pertinent evidence. The first comes from Diogenes Laertius:[7]

> Alcmaeon was a pupil of Pythagoras. Most of his writings concern medicine, but on occasion he discusses natural philosophy, as when he declares that "most matters concerning humans go in pairs." It is generally held that he was the first to compile a treatise on natural philosophy.

The second witness is Aristotle:[8]

> Certain others of the Pythagoreans assert that the principles are ten, namely those of the parallel series of opposites: limit, unlimited; odd, even; one and multitude; right and left; male and female; rest and motion; straight and curved; light and darkness; good and bad; square and oblong. A similar view was apparently adopted by Alcmaeon of Croton. He either took this doctrine from the Pythagoreans or they took it from him. For Alcmaeon was a young man when Pythagoras was old, and his doctrine was similar to that of the Pythagoreans. For he says that most human matters go in pairs, not referring to opposites that were limited, like the Pythagorean opposites, but to any that he happened to observe, e. g., white, black, sweet, bitter, good, bad, great, small. About the other opposites

---

[5] Some recent research would put the *floruit* later—perhaps as late as 450 B. C. The question is still *sub iudice*, but a later date does not lessen the importance of Alcmaeon; it only postpones the beginning of the period when medicine and philosophy reacted on each other. For Alcmaeon was almost certainly before Empedocles and Anaxagoras. See on this question a valuable review of L. A. Stella's work on Alcmaeon by Edelstein in the *American Journal of Philology*, LXIII, 3.

[6] Ioannes Wachtler *de Alcmaeone Crotoniata*, Leipzig 1896. Wachtler asserts roundly on p. 88 "Pythagoreorum societatis assecla non fuit," but the evidence for such a positive assertion seems to me inconclusive. See pp. 83-87 and also pp. 92, 93 for Pythagorean *πολυμαθία* and attention to regimen.

[7] VIII 83.

[8] *Metaphysics* A 5, 986 a 22 foll.

Alcmaeon made only random suggestions, but the Pythagoreans clearly defined the number and nature of them. By both however we are told that the opposites are the first principles of existence.

There follows here a passage referring to Alcmaeon from the compiler Aëtius:[9]

Health is a condition maintained by equality[10] among the powers, the moist, the dry, the cold, the hot, the bitter, the sweet and the rest, but an autocracy[10] among these produces disease. For autocracy is destructive of one or other member of a pair. A disease occurs through excess of heat or cold (agent), because of too much or too little nourishment (cause or occasion), in[11] the blood, the marrow or the brain (place). Sometimes disease occurs in these from external causes, from waters of such and such kinds, or from some similar cause. But health is an harmonious blending of the various qualities.

It is clear that Alcmaeon was intimately connected with those Pythagoreans who, early in the history of the brotherhood, substituted for the doctrine of numbers, or possibly added to it, a doctrine of opposites. Aristotle does not know whether Alcmaeon or the brotherhood first formulated this view, and it would be arrogant to be positive when Aristotle himself is in doubt, but certain slight indications point to the physician as the author.

Both Diogenes and Aristotle indicate that Alcmaeon, although according to Aristotle not limiting the number of his opposites, did limit them to "human matters,"[12] and the passage in Aëtius more than hints that the philosophy of opposites, vaguely suggested by the speculation of Anaximander, had its real origin in physiology, or rather in morbid pathology. To an observer, handicapped as were the early Greeks, fever appears to be caused by excess of heat, biliousness by an excess of "the bitter," and health by a blending of these and other "powers" with their appropriate opposites. This view of disease and health persisted, and, though modified by various medical theorists, lived perhaps as long as did the humoral pathology. The late fifth-century work *Ancient Medicine*, one of the outstanding books of the Hippocratic *Corpus*, is little more than an essay in defence of Alcmaeon's theory.[13]

[9] V 30, 1.

[10] These words, *ἰσονομία* and *μοναρχία*, would come naturally to the mind of one who, like all Pythagoreans, was interested in Greek politics.

[11] Reading (with Diels) *ἢ ⟨περὶ⟩ αἷμα*.

[12] *τὰ πολλὰ τῶν ἀνθρωπίνων*.

[13] It is probable that Alcmaeon introduced the word *κρᾶσις* (it occurs in the passage of Aëtius) which afterwards became a technical word in Hippocratic terminology. See e. g. *Ancient Medicine*.

Alcmaeon may very well have believed that as the doctrine of opposites was true of man, the microcosm, it might therefore explain the mystery of the macrocosm; that the *τέχνη* of medicine would thus lead the way to *ἐπιστήμη* and reality. Perhaps too, convinced of this, he attempted to bring over his Pythagorean friends to similar views. If this be true (and admittedly it is only an assumption), the history of medical and philosophic thought becomes plainer. In particular, a passage in Plato, which scholars now hold refers to Alcmaeon,[14] becomes full of deeper meaning.

In a passage of the *Phaedo* the Platonic Socrates, relating his past study of philosophy, says that he once examined the theory whether " it is the brain [15] that gives the sensations of hearing, seeing and smelling, and from these come memory and opinion, and from memory and opinion, when it has reached a state of stability,[16] comes knowledge."

This theory states that *ἐπιστήμη* arises ultimately from sense-perceptions, and is not, as Plato and other Greek philosophers maintained, something quite distinct from sensation, an apprehension of reality not by the senses but, in Platonic language, " by the soul itself " (*αὐτῇ τῇ ψυχῇ*). If this be so, medicine, being like other *τέχναι* a body of organised sense-perceptions, must be of importance to seekers after real truth, inquirers into the nature of " the great All." *Ancient Medicine*,[17] in fact, definitely makes the claim that while medicine cannot be learned from " philosophy," philosophy can best be learned from medicine.

In one of his logical works [18] Aristotle sets forth his own view of *ἐπιστήμη*. His language is strikingly similar to that of Plato, and the account he gives is but a development of that of Alcmaeon. From sensation, he says, comes memory, from memory, experience, " and from experience or from all the universal when stabilised (*ἠρεμήσαντος*) in the soul, which universal being, in contradistinction to the many particulars, whatever is one and the same in all of them, arises the beginning of art (*τέχνης*) and of knowledge (*ἐπιστήμης*), art when the subject of inquiry

[14] *Phaedo* 96 b.

[15] *λαβούσης τὸ ἠρεμεῖν*. Cf. the passage (below) from Aristotle's *Posterior Analytics*, and Hippocrates, *Sacred Disease*, XVII, *ὅσαν δ' ἂν ἀτρεμήσῃ ὁ ἐγκέφαλος χρόνον, τοσοῦτον* and " knowledge," Alcmaeon himself distinguished *φρονεῖν* and *αἰσθάνεσθαι* (Theophrastus *de sensu* 25).

[16] *λαβούσης τὸ ἠρεμεῖν*. Cf. the passage (below) from Aristotle's *Posterior Analytics*, and Hippocrates, *Sacred Disease*, XVII, *ὅσον δ' ἂν ἀτρεμήσῃ ὁ ἐγκέφαλος χρόνον, τοσοῦτον καὶ φρονεῖ ὁ ἄνθρωπος*.

[17] See especially ch. XX. The writer used *φιλοσοφία* to represent the studies of Empedocles and others in the sphere of *φύσις*, calling such philosophers *σοφισταί*.

[18] *Posterior Analytics* II 19 99 b foll. The same views are expressed at rather greater length in *Metaphysics* A 1 980a 21-982a.

is becoming (*περὶ γένεσιν*, i. e. phenomena), and knowledge when the subject is real being (*περὶ τὸ ὄν*)."

It is plain from these passages that Alcmaeon's derivation of *ἐπιστήμη* from *αἰσθήσεις* through the stages of *μνήμη* and *δόξα* had great and lasting influence upon Greek theories of knowledge, and though rejected by Plato was accepted in its entirety by Aristotle, who merely adds a few details and refinements. Now Alcmaeon was first and foremost a physician with a keen interest in anatomy; we have no evidence that he devoted his attention to other *τέχναι*. So we may conclude that he was the first physician to exercise any influence upon the course of Greek thought, and, unless our tradition be greatly at fault, the first to set forth clearly what may perhaps be called a philosophy of medicine.[19] He probably transferred to the very slender medical doctrine of his time—which was mostly empirical generalisation like the Hippocratic *Aphorisms*—many ideas borrowed from his own speculations or from those of earlier philosophers. His best-known dogma, that health is a *κρᾶσις* of opposing *δυνάμεις*, is as much a *ὑπόθεσις* as any assumption in Greek philosophy.

We should do well to notice here that much Greek medical theory was a thing that does not appear to have been closely connected with the art of the general practitioner, nor to have influenced that art to any great extent. Alcmaeon's theory of a blending of opposites applies as much to the natural world generally (so far as a Greek could see) as to the human body in particular. This does not mean that Alcmaeon's purely professional work was of no or little value. His anatomical researches, particularly into the structure of the eye, and his connecting the senses with the brain,[20] mark him as a pioneer in pure medical science.

The Work *Sevens*

The eighth and ninth volumes of Littré's *Oeuvres complètes d'Hippocrate* contain two Latin translations of a work known in antiquity as *περὶ ἑβδομάδων*. There are also a few Greek fragments from the same work, and an Arabic translation has recently been discussed by Christ.

[19] Diogenes Laertius, on the authority of Favorinus, says *πρῶτος φυσικὸν λόγον συγγεγραφέναι*. This appears to conflict with our tradition about Anaximander and Anaximenes, and may perhaps refer to Alcmaeon's researches in physiology and pathology.

[20] Theophrastus *de sensu* 26: *ἁπάσας δὲ τὰς αἰσθήσεις συνηρτῆσθαί πως πρὸς τὸν ἐγκέφαλον, διὸ καὶ πηροῦσθαι κινουμένου καὶ μεταλλάττοντος τὴν χώραν· ἐπιλαμβάνειν γὰρ τοὺς πόρους, δι' ὧν αἱ αἰσθήσεις. περὶ δὲ ἀφῆς οὐκ εἴρηκεν, οὔτε πῶς οὔτε τίνι γίνεται.*

Harder.[21] This work has interested many scholars, including Ilberg, Fredrich and Diels.[22]

The difficulties, and at the same time the intrinsic interest of this treatise are shown by the diversity of the views competent scholars have been led to form about it. Ermerins calls it Pythagorean; Littré regards it as a continuation of *Fleshes*, a latish work in the *Corpus*; Ilberg thinks it is of Cnidian origin, while Roscher himself is convinced that the author was an Ionian of Miletus who lived before the destruction of that city in 494 B. C.

This wild diversity of view is not surprising. The few fragments in Greek may be, probably are, adaptions or paraphrases of the original; and so, as the rest of the work is known to us only in translations, the linguistic test for date and provenance cannot in this instance be applied. Again, although a good case could be made out in favour of a "patch-work" origin—and such is the origin of many treatises in the *Corpus*—yet the heterogeneous character of early Greek prose literature, notably that of Herodotus, makes it rash to pronounce a confident verdict upon a work supposed by some to be one of the earliest examples of Greek prose.

Here follows a brief analysis (with the numbers of the chapters in brackets):—

(I) The importance of the number seven; the seven spheres of the Universe. (II) The seven constellations. (III) The seven winds. (IV) The seven seasons of the year. (V) The seven periods of life. (VI) A comparison of the macrocosm and the microcosm, with their seven corresponding parts; the warm and the cold. (VII) The seven parts of the human body. (VIII) The seven functions of the head. (IX) The seven vowels. (X) The seven elements of the soul. (XI) The seven regions of the earth. (XII) The relation between illnesses and the "great All." (XIII) The soul is a mixture of the warm and the cold. (XIV) The origin and nature of ardent fevers. (XV) The four elements, heat, water, air, earth. (XVI) The year and its three parts (change, ripeness, winter). (XVII) Winter cold and its action on small and large animals.

[21] See W. H. Roscher, (1) *Die neuentdeckte Schrift eines altmilesischen Naturphilosophen und ihre Beurteilung durch H. Diels* (Sonderabdruck aus "Memnon," 1912), and (2) *Die hippokratische Schrift von der Siebenzahl in ihrer vierfachen Überlieferung* 1913. The four MSS are Parisinus gr. 2142, Ambrosianus lat. G. 108, Parisinus lat. 7027, Monac. arab. 802.

[22] See the list of recent literature on the subject in Roscher. Especially important is Ilberg, *Die medizinische Schrift über die Siebenzahl und die Schule von Knidos*, 1894.

(XVIII) In man and in the world is one fluid, the modifications of which under heat and cold form the other fluids in the body. (XIX) The heat of the soul produces bodily heat and fever. (XX) Heat both kills the body and makes it grow. (XXI) The warmth of summer and its action on the humours of plants and of beasts. (XXII) The new is wet and soft, the middle-aged bitter and viscous, the ageing soft, cold and weak. (XXIII) The influence of four astronomical periods on health and disease. (XXIV-XXXIX) The treatment of fevers; phrenitis, lethargus, peripneumonia, hepatitis are reduced to forms of causus, while epialus is causus modified by phlegm. In XXVI is discussed the number seven in the critical days of fevers. (XL-LIII) Symptoms and prognosis, with the signs indicating recovery or death.

The passage containing the signs of death (LII and LIII) appears in its Greek dress at the end of the eighth book of *Aphorisms*, and there seem to be other connections with parts of the Hippocratic *Corpus*. *Diseases* III has been thought to be a continuation of it, and the number seven in relation to teeth is considered in *Fleshes* XII and XIII, and in relation to the embryo in *Fleshes* XIX and *Seven Months Child* I, IV, VII and IX.

In this work is clearly set forth a medical theory which for a long period greatly influenced, if it did not dominate, Greek medical thought, and in modern times has reappeared in a new form to control the education and training of physicians and surgeons. This theory may perhaps be expressed as follows:—

Man is a part of the natural world—he is a microcosm which is the miniature counterpart of the macrocosm—and so man, his health and diseases, cannot be understood by those ignorant of the constitution of the world. This view of the nature of man is the fundamental thought running through the whole work, but it is especially prominent in chapters VI and XII. Gomperz [23] thinks that it was common to the Cnidian and Sicilian schools, implying that elsewhere it was received with less or no favour. As a matter of fact it appears, in various schools and with various modifications, at least down to Alexandrian times, being one of those intuitive guesses which today make us wonder how they could possibly have suggested themselves to minds that had gained as little scientific experience as had those of the Greeks. A change however takes place after Aristotle, who by his classification of the sciences encouraged thinkers to work in water-tight compartments. Broad, comprehensive views were followed by a period of narrow specialization.

[23] *Greek Thinkers* (Eng. trans.) I 285 foll.

Now a work containing this theory, if it be as early as Roscher supposes, is obviously of great evidential value. The question of date really turns on chapter XI; were it not for that chapter, a fourth-century origin would be accepted by all. Here is a rough translation:—

> The earth has seven parts. The head and face is the Peloponnesus, dwelling-place of great souls. Next the Isthmus, marrow and neck. The third part is Ionia, between the bowels and breast (?). The fourth part is the Hellespont, the legs. The Thracian Bosporus and the Cimmerian Bosporus are the fifth part, the feet. The sixth part, the belly, is formed by Egypt and the Egyptian Sea. The Euxine and Lake Maeotis are the seventh part, the lower belly and the straight gut.

This strange map, with its entire neglect of Athens, Delphi and the Western Greeks, and the stress it lays on the Peloponnesus and Ionia, must on any interpretation be very early. There was no need for a late author to leave out of the picture so many places important in the fifth century; several "seven-point" maps bringing in the chief of these are possible, and they would probably represent the human figure better than the armless, distorted monstrosity of this eleventh chapter.[24]

We must therefore agree with Roscher that chapter XI is early—probably sixth century. The rest of the book is by no means so crude, and the account of fevers is not unlike the accounts given in some latish books in the *Corpus*. Although the attempts to see everywhere the presence of seven are often rather forced, yet they can be matched by much speculation, equally wild or wilder, in *Breaths*, *Regimen*, *Nutriment* and elsewhere. So the view is *prima facie* tenable that chapter XI is much earlier than the rest of the book.

On the other hand *Sevens* has a kind of unity. Chapters I-XII deal with seven in the macrocosm and in the microcosm. Chapters XIII-XXIII are concerned with the aetiology of fevers, with their relation to the opposites, the warm and the cold, to the four elements and to the seasons of the year. Chapters XXIV-XXXIX contain the treatment of fevers, the sevens in the critical days being discussed in chapter XXVI. The

[24] It is noteworthy that Herodotus (V 49) describes the "map" brought to Greece by Aristagoras of Miletus in 500 B. C. as something strange and unusual. It was a bronze plate, on which was engraved a "bird's-eye view of the whole earth (*γῆς ἁπάσης περίοδος*) with every sea and all the rivers." The story in fact suggests that maps were unknown at this period in Greece proper, but familiar to Greeks living on the coast of Asia Minor. While proving nothing, the story agrees well with a date prior to the Persian Wars for chapter XI and with an Ionian origin. Anaximander of Miletus made the first Greek map, and the Ionians were great cartographers. Herodotus (IV. 36) rebukes the drawers of such maps for making them symmetrical rather than accurate.

last section (XL-LIII) deals with symptoms and prognosis, the second half containing the signs of recovery or death.

Along with much that is un-Hippocratic there is here combined much that is Hippocratic. For though genuine Hippocratic doctrine paid no attention to the recurrence of seven, it did attach importance to critical days; while ignoring heat and cold as ultimates, it paid great attention to climate. The reduction of fevers to varieties of one genus is Hippocratic in spirit (and incidentally anti-Cnidian),[25] and so is, lastly and especially, the stress laid on prognosis.

Sevens presents a tantalising problem, one typical of medical history in general and of the Hippocratic writings in particular, when the student strongly suspects that he knows the answer, but can bring no decisive evidence in support of his view. My own opinion is that the work is early, and that Diels' criticisms of Roscher (quoted by Roscher himself (2) pp. 120-122), that its old philosophical views are late archaisms, and that the whole is a " stupid but historically interesting book " are not entirely free from prejudice. The matter would not seriously affect the present enquiry did not *Sevens* definitely unite philosophy and medicine. An early date would show that this union took place about the time of Alcmaeon, and so strengthen the view that probably the first to join *σοφία* and traditional, empiric, medicine were the Pythagoreans or their associates.

The Sicilian School

The Pythagoreans, Alcmaeon, *Sevens*—these lead us gradually but surely to consider the medical school known as Sicilian. Perhaps it would be more accurately described as Western, but its chief exponent was Empedocles, the Sicilian philosopher whose medical work is not generally taken seriously by scholars. He has been called a " medicine man " rather than a physician, and his pride and love of mystery make historians rank him with quacks and charlatans. But the mystical allegories of the philosophical *περὶ φύσεως* are at least as great as those obscuring his medical teaching. If they are discounted in the one, they should be equally discounted in the other.

The essential doctrines of the Sicilian school are these.

(1) The four elements are identified with the traditional opposites, the hot, the cold, the moist and the dry.

[25] It is indeed difficult to join Ilberg in classing as Cnidian a treatise which unites several species of illness and values prognosis, when our best authority for the Cnidians (*Regimen in Acute Diseases*) asserts that they neglected the latter and multiplied diseases. But Roscher (2) p. 116 seems to agree with Ilberg.

(2) The heart (or rather the blood around it) not the brain is the seat of consciousness.

(3) Breathing is through *all* the "pores" of the body, and is connected with the motion of the blood.

(4) The phenomena of human life and of health can be understood only in their relation to the whole of nature.

(5) Magic and superstition were not entirely abandoned, and competent authorities believe that *Sacred Disease* is a polemic directed against the Sicilian School. Perhaps it really was a half-way house between primitive superstition and later science. It may however be that the school valued the psychological help afforded by faith-healing.

(6) If we may judge from the words of Empedocles,[26] the Sicilian School took a long and confident view of the possibilities of medicine and medical research.

Empedocles himself was an interesting character, whose medical work has always been thrown into the shade by the greater general interest aroused by his philosophical speculations.[27] In fact much of it was legendary even in ancient times. There are two stories in Diogenes Laertius which, though told as marvels, obviously are not mere inventions, but founded on a solid substratum of fact. Pure legends are made of very different stuff. The first [28] is that he restored to consciousness a woman who had been in a trance for thirty days. The second [29] is that by bringing two rivers together he stayed a pestilence at Selinus. Apparently the plague was malarial, and the joining of the rivers cleared away the marshes that bred the mosquitoes.

But perhaps the most striking characteristic of Empedoclean science is his faith in its infinite possibilities.

Thou shalt learn all the drugs that are a defence to ward off ills and old age, since for thee alone shall I accomplish all this. Thou shalt arrest the violence of the unwearied winds that arise and sweep the earth, laying waste the cornfields with their blasts; and again, if thou so will, though shalt call back winds in requital. Thou shalt make after the dark rain a seasonable drought for men, and again after

[26] See especially fr. 111.

[27] A good case might be made out for the view that Empedocles' philosophy was co-ordinate with his medical science, not a superior branch of research. Empedocles was a pupil of Pythagoras, and inherited the latter's catholicity. The same breadth of outlook was shared, to a less degree, by Anaxagoras and Democritus. With these thinkers the sphere of philosophy was life and all that life implies.

[28] Diogenes Laertius VIII 61.

[29] Diogenes Laertius VIII 70.

the summer drought thou shalt cause tree-nourishing streams to pour from the sky. Thou shalt bring back from Hades a dead man's strength.[30]

The vision of Empedocles was broad and clear. He saw that science must embrace the past and future as well as the present, and fully realised that the study of medicine, if it was to develop, must not be confined to observation of morbid phenomena. Chemistry (or what passed for such in those days), physics, biology, psychology—all these must, thought Empedocles, be linked together into an organic whole. Scientific thought was as yet too young to realise how complex knowledge is, how varied its departments and how intricate its details. An Aristotle was necessary before the conditions of the problem could be understood, or even appreciated. Strange it is that the whole was apprehended long before the parts. It is a common enough remark that "the wood cannot be seen for the trees." Empedocles, and the philosophers who belonged to his way of thought, could not see the trees for the wood. But the wood they did see, an impressionist picture of it perhaps, but in its main features accurate enough. We moderns realise that the physician must include in his preliminary studies those very subjects that Empedocles dealt with in his *περὶ φύσεως*. These are called today by other names, but essentially they are the same as their predecessors.

Some of the guesses of Empedocles are remarkable anticipations of modern discoveries, showing wonderful prevision and intuition. For instance, he held, so Aristotle tells us,[31] that bone was a blending of three of the "elements." Of eight parts there were two of water, two of earth and four of fire. The "elements"[32] are chosen arbitrarily, and so are the ratios in which they are blended; at any rate the reasons that appealed to Empedocles are no longer known. But it is clear that Empedocles originated the conception of chemical formulae; this analysis of bone does not in its nature essentially differ from (say) H_2SO_4 as the formula for sulphuric acid.

Yet more wonderful is Empedocles' forecast of Darwinian evolution,[33] and Aristotle's[34] rather scornful rejection of it. Empedocles divided it into four stages. In the first two the "elements" and "Love" (attraction) are the active factors, in the third the elements and Strife (repulsion), in the fourth, our own age, generation alone acts.

[30] Diogenes Laertius VIII 59 (Hicks' translation). Diels 111.
[31] See *de anima* 410a and fr. 96 (Diels).
[32] Empedocles called them "roots" (*ῥιζώματα*).
[33] See Diels fr. 57-62.
[34] See Aristotle, *Physics* B 198 b 29.

The first stage produced the various parts separately, the second monstrous forms created by the chance combination of limbs, those not fitted to survive perishing, the third " whole-natured forms " composed of earth and water without any distinction of species or sex, the fourth animals with species and sex, and endowed with the power of procreation.

Our knowledge of this theory is fragmentary, many details being uncertain or obscure.[35] But its general outline is clear enough. That its acceptance was delayed two thousand three hundred years was due partly to the lack of corroborative *data* and partly to the attack of Aristotle. This philosopher refused to believe that chance could play so important a part in the scheme of things, being convinced that Nature always acts with a purpose.

To conclude: to the physics of the earlier philosophies Empedocles added biology and physiology, in particular the physiology of respiration, generation, birth and death.[36] Psychology too claimed his attention, at least the psychology of elementary cognition. Empedocles speaks in the same way of all the senses, saying that perception is due to " effluences " fitting into the passages (*πόροι*) of each sense-organ. We learn this from Theophrastus, and the details have been well explained by Beare and Burnet. Empedocles held that the chief seat of perception was the blood, particularly the blood around the heart.

On the whole Empedocles was a student of *φύσις* in its widest sense with a special interest in the *φύσις* of man—a thinker rather than a healer of mankind. Even in the *καθαρμοί* the main interest is a human one, namely transmigration, a doctrine which (it has been pointed out by scholars) is quite incompatible with the teaching of the *περὶ φύσεως*. Consistency, however, was not valued by the ancients as much as it is by ourselves.

Later in the fifth century came Philolaus. A Pythagorean of Croton, he taught Simmias[37] of Thebes, studying like all Pythagoreans the science of medicine.

Anaxagoras

Anaxagoras of Clazomenae, " older in years than Empedocles, but later (inferior?) in achievements,"[38] presents a difficult but most interesting problem. Whatever view be taken of his obscure and difficult theory of change, birth and decay, there can be no doubt whatever that his typical

[35] See e. g. the discussion in Burnet[4], pp. 242-244.
[36] Burnet[4], pp. 244-246.
[37] Plato, *Phaedo* 61 d and e.
[38] Aristotle, *Meta.*, A 3. 984a 11: *τῇ μὲν ἡλικίᾳ πρότερος τούτου, τοῖς δ' ἔργοις ὕστερος.*

" elements " were flesh, bone, blood, marrow etc.[39] When to this is added the doctrine that Mind is the ruler who brings order out of chaos, it is hard to avoid the conclusion that Anaxagoras was among those who regarded man as a universe in little, seeking in the human body a solution of the problem of change in the inanimate world. In a way the conception is the opposite of that favoured by the Sicilian school. This held that man can be understood only in relation to the cosmos; physics must precede physiology. Anaxagoras apparently held that only physiology can explain physics; biochemistry must take precedence of chemistry.[40]

The Work *περὶ τροφῆς*

There is in the Hippocratic *Collection* a small treatise called *περὶ τροφῆς*. This is the place to discuss it, although the rest of the *Collection* must be considered later. As far as we can see, its date is the close of the fifth century, when old physical theories were revived with, perhaps, modifications. There is perhaps nothing in the work to prevent our assigning it to almost any date after Heraclitus, the whole book being an elaborate and ingenious attempt to apply the doctrines of that philosopher to the processes of digestion and nutrition. There does not appear to be any direct polemic against Anaxagoras; indirectly however the author criticises the view that the " seeds " blood, flesh, bone, marrow and so on are elemental, maintaining that the *πάντα ῥεῖ* of Heraclitus, with the *δύναμις* (essential quality) of food as the constant, affords a much more reasonable theory of growth and decay.

The slogans of Heraclitus, his pet phrases and general style, are most cleverly copied by this prince of imitators. Unfortunately he has copied the obscurity of Heraclitus " the dark " along with his other characteristics, so that many of the aphoristic propositions are almost unintelligible. But the general drift of the argument is clear enough.

Nourishment is supposed to be dissolved in water,[41] and is thus carried to every part of the body, assimilating itself to bone, flesh, marrow and so on, as it comes into contact with them.[42] It is a continuous process, and properly speaking there can be no beginning to it, and no end.[43] The Heraclitean doctrine of relativity is applied not merely to the knowledge

[39] See e. g. Aristotle, *Meta.*, A. 3, *Phys.*, 4. 203a, *de gen. et corr.*, A 1. 314a, and Aëtius, I 3. 5.

[40] The author of *Ancient Medicine* seems to adopt this view in chapter XX. See pp. 85 f.

[41] *Nutriment*, LV with XLIX and L.

[42] *Ibid.*, VII.

[43] *Ibid.*, IX.

of properties, as it was e. g. by Protagoras,[44] but to the properties themselves.[45] The "road up and down," a fundamental part of the theory of Heraclitus, becomes, in the theory of the Hippocratic author, the oesophagus—a clever, not to say humorous conception.[46] The only points where the Hippocratic author differs from Heraclitus seem to be:—

(1) Water is the vehicle of nourishment, and not, as in Heraclitus,[47] a kind of negation of energy.

(2) The place of Heraclitean fire is taken by the mysterious δύναμις of food.[48]

(3) No stress is laid on strife (ἔρις, πόλεμος in Heraclitus) as an essential condition of Being. The kindred notion that a thing both is and is not, a fundamental conception of Heraclitus, appears throughout the work so frequently as to make quotation unnecessary.

The physiology of the book is in some ways peculiar. Milk and blood are said to be residues after the process of nourishment is complete.[49] For the first time in the history of medicine the importance of pulses is recognised.[50]

The reason for this odd method of procedure is lost to us; we can only guess what it may possibly have been. The work—it is absurd to call such a trifle a "book" or "treatise"—may be a mere *tour de force*, a *jeu d'esprit*. The ancients did on occasions indulge in such efforts, especially when they could be reinforced by parody or caricature. Against this explanation is the sincere earnestness of the writer. He is obviously trying to convey information, however strange the method he adopts. So perhaps he really was obsessed by the supposed efficacy of the philosophic, or at least of the Heraclitean approach to the solution of problems, and followed the common error of his countrymen in applying it where it was entirely inapplicable.

The strangest feature then of περὶ τροφῆς is its (to us) obviously

[44] πάντων χρημάτων μέτρον ἄνθρωπος.

[45] *Nutriment*, XIX and XLIV. Cf. also XL.

[46] *Ibid.*, XLV: ὁδὸς ἄνω κάτω and XVIII, φαρμακειὴ ἄνω καὶ κάτω, οὔτε ἄνω οὔτε κάτω.

[47] See (Bywater) *fr.* LXVIII, LXXII, LXXIII, LXXIV, LXXV and LXXVI.

[48] Cf. *Nutriment*, III, VII, XIII, XXXII, XLVI, LIV. Perhaps the last throws most light upon this (to us) most difficult conception: "It is power that gives to all things increase, nourishment and birth." With this should be compared the δύναμις of foods as described in *Regimen*, I ii, and the respective δυνάμεις of fire and of water as set forth in ch. iii of the same book.

[49] XXXVI: Γάλα καὶ αἷμα τροφῆς πλεονασμός.

[50] XLVIII. It is certainly strange that the importance of pulsation was not fully recognised before about 340 B. C. See Clifford Allbutt, *Greek Medicine in Rome*, ch. XIII.

unsuitable form and style for a scientific exposition of a very important department of physiology. It might be thought that to explain nutrition, whether to medical students or to laymen, an author would choose a simple, direct and straightforward style, that he would avoid poetic expressions, metaphors and all unnecessary ornament, and that he would never dream of making the subject more difficult than it is by using literary tricks which satisfy aesthetic instincts by the sacrifice of truth. Yet all this is precisely what the author of *Nutriment* has done, not through accident or carelessness, but of set purpose.

Plato

The Western school of medicine exercised a very strong influence upon Plato, who was attracted by the doctrines of the Pythagoreans, and also visited Sicily early in the fourth century. This influence is most clearly seen in the *Timaeus*, but there are two other places in Plato's works where medical theory is expounded with evident approval. These are *Charmides* 156 b-157 c and *Phaedrus* 270 c-e.

In the *Charmides* Socrates claims to have heard in Thrace, on the authority of Zalmoxis, its legendary hero,[51] a certain medical theory of healing. The thoughtful reader is simply astounded by its modernity, which makes him wonder how such profound scientific thought could be born at such an early period in the history of research.

The young Charmides is suffering from a headache, and Socrates says that he had heard in Thrace that a physician cannot treat the eyes properly without treating the whole head, nor the head without treating the whole body, nor yet the body without treating the soul. "The part can never be well unless the whole be well."

Strictly speaking, of course, this statement is not true; aspirin, without psycho-analysis, will cure (or at least relieve) most head-aches. But the principle (or principles) involved, that successful treatment of disease must not be limited to local symptoms, but must be based on a knowledge of the real cause or causes, physical or psychological, is of fundamental importance and profoundly true. Here we have yet another example of a guess verified and found correct by modern research.

The passage in the *Phaedrus* is more obscure, but in many ways more interesting. It is difficult to translate, more difficult still to explain.

Socrates. Do you then think it possible to comprehend satisfactorily the nature of soul apart from the nature of the whole?

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[51] He is said to have been a slave of Pythagoras. See Herodotus, IV, 95.

Phaedrus. Nay, if we are to put any trust in Hippocrates, of the Asclepiad family, we cannot know anything even about the body apart from this method.

Socrates. Yes, my friend, and he is right. Still, in addition to Hippocrates we ought to examine reason, and see if it is on his side.

Phaedrus. I agree.

Socrates. Consider, then, what it is that both Hippocrates and correct reason mean by "the examination of nature."[52] Surely it is in the following way that we must inquire into the nature of anything, whatever this thing may be. First, we must see whether that in which we shall wish to be craftsmen and to be able to make others such, is simple or multiform;[53] secondly, should it be simple, inquire what power its nature has given it of acting, and of acting upon what; but if it be multiform, then we must enumerate the forms, and see in the case of each what we saw in the case of one,[54] through what natural power it acts, and upon what, or through what it is acted upon, and by what.

τοῦ ὅλου in the first sentence has aroused a storm of controversy. Most scholars with a feeling for the Greek language are agreed that it means "the universe." Yet it is indeed strange that Plato makes no reference to the cosmos in his explanation that follows. "The whole man" would require the addition of *ἀνθρώπου*, yet one suspects that Plato, or Hippocrates, was, unconsciously perhaps, thinking of man as the microcosm.

Here then it is stated that Hippocrates, that is in all probability the person, not the books attributed to him, considered correct medical practice to depend upon a knowledge of man's environment and of the reactions of our bodies to it. So far all is fairly clear. The view that what we should today call physics and chemistry are closely related to medicine is one common enough among Greek physicians. Difficulties, however, occur when we try to understand the latter part of the passage. What is meant by "simple" (ἁπλοῦν) and "multiform" (πολυειδές)? Every φύσις has to be placed in one or the other of these two categories, so that as εἶδος suggests element we might suppose that ἁπλοῦν means "elemental" and "πολυειδές" "compounded of many elements," or "composite." The word πολυειδές, however, refers, not to the transcendental εἴδη, but to elementary bodies like those so often called εἴδη in the *Corpus* and elsewhere.[55] Plato is speaking as a scientist, not as a metaphysician. To understand the passage in the *Phaedrus* it

[52] This seems to be the meaning of the Greek. But λέγει might be "says"; "which Hippocrates says, and which right reason says about this or any other nature." (Jowett).

[53] πολυειδές. This word seems to mean "compounded of many elements," with reference to εἶδος, Plato's technical word for what we should call "element," "real existent."

[54] Or, "of the one (i.e. simple) thing."

[55] See A. E. Taylor, *Varia Socratica*, 178-267.

should be compared with *Republic* 612a, where Plato, after discussing the soul and bringing forward a proof of its immortality, goes on to say that the true φύσις of soul cannot be seen while it is defiled and corrupted by its connection with a material body. Only if examined in its natural environment can we apprehend its true φύσις, whether it be πολυειδής or μονοειδής. In other words, the tripartite division into rational, spirited and appetitive parts, assumed for practical purposes in the earlier part of the *Republic*, may turn out to be true only when soul is joined to a mortal body; when set free from its prison it may turn out to be an indivisible unity. Its three "parts" with their actions and reactions form the material of education in this life; they play no part in the life to come.

This line of thought may be compared and contrasted with that in *Nature of Man*, of which the first eight chapters are occupied with the thesis that man is not a unity, in other words not ἁπλοῦς or μονοειδής. Man is said to be made of four, apparently elemental,[56] components: blood, phlegm, yellow bile and black bile. So far all is in agreement with the Hippocratic method as outlined by Plato, but the writer says little about the "powers of acting and being acted upon" possessed by the four humours, the nearest approach to such a discussion being in the seventh and eighth chapters, where are set forth the supposed relations between the four humours and the four seasons of the year.

Galen [57] believed that Plato in the *Phaedrus* passage referred to *Nature of Man*, which opinion if true would almost amount to proof that Hippocrates wrote a work which Aristotle [58] ascribes to Polybus, the son-in-law of the physician, to whom *Anonymus Londinensis* [59] too assigns at least chapters II-IV.

Littré is quite convinced that the *Phaedrus* passage refers to the XXth chapter of *Ancient Medicine*, where the author says:—

> I also hold that clear knowledge about natural science can be acquired only from the medical art, and that one can attain this knowledge when medicine itself has been properly comprehended, but till then it is quite impossible—I mean to possess this information, what man is, through what causes he comes into being, and all

[56] It is difficult to harmonize chapter V, where these four humours are elemental, with chapter III, where it is said that at death "each component must return to its own φύσις, moist to moist, dry to dry, hot to hot and cold to cold." The sentence in chapter III certainly seems to imply that the elemental parts of man are the four traditional opposites.

[57] See the discussion of Galen, XV, 9 ff. in Villaret's edition of *de natura hominis*, pp. 4-6.

[58] *Hist. animalium*, III, 3.

[59] Chapter XIX, Diels 33, 34.

other points accurately. Since this at least I think a physician must know, and be at pains to know, about natural science, if he is going to perform anything of his duties, what a man is in relation to foods and drinks and to habits generally, and what will be the effects of each on each individual.

Gomperz in his *Greek Thinkers* agrees with Littré.

The relation of *Ancient Medicine* to the *Phaedrus* was discussed in *Hermes* nearly a generation ago by two able scholars, M. Pohlenz and W. Capelle. The former holds that there is a connection between the two, *Ancient Medicine* being partly in agreement and partly in disagreement with the views of Hippocrates as given by Plato. *Ancient Medicine*, says Pohlenz, speaks of natural philosophy, anthropology and physiology, and of their respective values for the physician. This distinction was already Hippocratean, but the author rejects the former two and is in favour only of the third. He would lay more stress than did Hippocrates, who steered a middle course between technical skill and abstract theory, on observation and purely empirical methods.

Capelle, on the other hand, is opposed to the view that *Phaedrus* 270 c refers to *Ancient Medicine* XX. Nature in the *Phaedrus* means the nature of the Universe; in *Ancient Medicine* " nature " means the reaction of the individual body to various kinds of food and drink. Capelle sums up thus: the Platonic Hippocrates held that there could be no scientific medicine without knowledge of the nature of the Universe; *Ancient Medicine* insists that there is no insight into the nature of the Universe without medicine. So there is no connection whatsoever between the Platonic passage and *Ancient Medicine*; the only link between the two is that the need for exact physiology is emphasized in both.

It is not hopeful when we find so little agreement among scholars as competent as Gomperz, Pohlenz and Capelle. Perhaps, however, they have been misled by details that *Ancient Medicine* fails to harmonize. Probably the author added chapter XX as an appendix when he realised that he had treated philosophy as though it dealt solely with the macrocosm, the constitution of the Universe and its evolution. With this inquiry and its methods he was convinced that medicine had no concern. But as early as Empedocles philosophy began to extend its scope, and with Anaxagoras the new tendencies acquired greater strength. Man, the microcosm, his constitution and evolution, appeared a field of research that offered more hopeful prospects than did cosmology. With this department of philosophy the author was in sympathy; there was here a direct connection with medicine. He had, however, no faith in the method of Anaxagoras, which was one of *ὑποθέσεις* as much as the methods of

Thales, Heraclitus or Empedocles. If the φύσις of man was to be investigated, the methods of medicine must be adopted. Philosophy must be developed out of " the Art," must obey it, not seek to control it. Capelle seems to be right when he contends that the *Phaedrus* deals with cosmology, *Ancient Medicine* with physiology.

There still remains to be dealt with the work in which Plato's views on medicine and science generally are set forth at greater length. The *Timaeus* is a puzzle. Its latest editor, A. E. Taylor, does not believe it to be Platonic in thought, but an effort by Plato to reconstruct, or to systematise, the Pythagorean science of the fifth century B. C., combined with a strong admixture of the views of Empedocles. The doctrines expounded in the *Timaeus* are certainly similar to those held by these two schools of thought. In this dialogue the Empedoclean " elements " are constructed out of Pythagorean " numbers," while the mystical diction so unlike the style of Plato when he is most truly himself, seems intended to bring to our minds the great teachers of the West of Greece.

The strangest thing about the *Timaeus* is the amount of space taken up by discussions of subjects Plato confessedly had no liking for. These are dwelt upon at great length and apparently in a serious manner. Anatomy, physiology and pathology are not congenial to Plato's mentality, and yet they comprise a great part of the treatise. We are amazed at his apparent ignorance of his own ignorance. The fault that Socrates spent his life in combating, that his pupil Plato fought with equal energy and even greater skill, seems here manifested with a frankness that strikes us as almost impertinent. In brief, Plato is for once, very un-Platonic. He has abandoned ἐπιστήμη for a disquisition on " the probable."

The answer to this puzzle seems to be that Plato could not understand any method of procedure, any " scientific method," that did not start with a postulate. In the *Phaedo* he blames Anaxagoras for not working out his doctrine of Mind, for not showing that an intelligent Creator must in all things work for the best. In the *Timaeus* he tries to perform the task he thought that Anaxagoras had neglected. Starting from the assumption that the Creator of man aimed at what is best when he made the human mind, the human members, their activities and their functions, he proceeds to show that all these things are in fact expressions or manifestations of a good God. Our bodies and our minds are as perfect as the limitations of time, space and matter permit them to be.

Archer-Hind in his edition of the *Timaeus*[60] puts the matter very well.

[60] P. 47.

"He strives to show in detail how the formative intelligence disposed all matter so as to achieve the best result of which its nature was capable: to show that the hypothesis of intelligent design was borne out by facts. He is careful to point out that the physical processes he expounds are but subsidiary causes, subordinate to the main design of Intelligence; for example, after explaining the manner in which vision is produced, he warns us that all this is merely a means to an end; the true cause of vision is the design that we may look upon the luminaries of heaven and thence derive the knowledge of number, which is the avenue to the greatest gift of the gods, philosophy." In other words, the physical portion of the *Timaeus* is but the expansion in Platonic language of Aristotle's *dictum* that Nature does nothing without a purpose.

A modern thinker might retort that all this part of the *Timaeus*, though rational enough, is highly speculative, being dogma not research, not science but religion. He would point out that to begin with a thesis that a good God has made our bodies what they are for good purposes is to beg the question—he would bring in fact against Plato the very charges brought against philosophers by the author of *Ancient Medicine*.

The teleological view in the *Timaeus* of anatomical and physiological facts is Plato's own development of the hint in Anaxagoras, but nobody believes that he discovered these facts (or supposed facts) for himself. Scholars, however, are not agreed about the source, or sources, from which he derived his information. Plato was not particularly interested in anatomy, physiology, or medicine in general, so that he probably chose his material in eclectic fashion from the authors, or from the oral doctrine, that fitted in best with his thesis. The various probabilities are fully discussed in Professor Taylor's edition, and in Professor Cornford's translation, of the *Timaeus*; these scholars believe that Philistion, Philolaus and Diocles were Plato's chief authorities, Coan influence being slight [61] or even negligible. Diocles, however, by his latest commentator,[62] is supposed to be too late an author to have affected Plato's medical views. The paramount influence seems to have been Philistion. He followed Empedocles in regarding the "roots" as elemental, giving to them the functions assigned by the Coan school to the four "humours."

The part of the *Timaeus* that seems most directly taken from Philistion is the account of fevers given in 86a. They are there attributed to excess of one of the four primary bodies, which by excess or defect, or by migration to an alien place, are in 82a said to cause a special class of

[61] See Cornford, *Plato's Cosmology*, pp. 337 and 341.
[62] Werner Jäger, *Diokles von Karystos*, Berlin 1938.

diseases. So fevers, chiefly if not all malarial, are said to be thus produced:—

(1) Continuous fevers by excess of fire;
(2) Quotidians by excess of air;
(3) Tertians by excess of water;
(4) Quartans by excess of earth.

There is a superficial resemblance between the degrees of "sluggishness" of the primary bodies and the length of the intervals between the accesses of the corresponding fevers, fire giving rise to continuous fevers, air to quotidians, and so on. This fits in well with the view of Philistion, given in *Anonymus Londinensis* ch. XX, where the proper blending of the four ἰδέαι (= the "roots" of Empedocles) is said to be the cause of health. The question naturally arises, why did Plato follow an antiquated theory of Philistion instead of the advanced views of the Coan school? Any answer must of necessity be speculative, but the problem may be reduced to two alternatives. Either Plato deliberately chose Philistion to be his authority, or he did so carelessly, under the impression that his purpose did not require a strictly accurate account. There seem to be two possible reasons why Philistion may have been chosen deliberately. If Taylor be correct in supposing that the *Timaeus* represents an amalgam of fifth-century Pythagorean mathematics and Empedoclean physics—Plato's visit to Sicily would impress these doctrines on his mind—the emphasis on the views of Philistion is not only explicable but inevitable. If on the other hand the *Timaeus* gives us Plato's personal views, then he must have been convinced that the Coan doctrine of humours with its approximation to Anaxagorean physics, fitted in with his theory of Ideas less easily than did the Sicilian doctrine of four ἰδέαι or "roots"—fire, air, water, earth.

The truth probably is that Plato, being more familiar with Sicilian than with Coan medicine, accepted it as satisfactory, holding that meticulous accuracy was unnecessary for his purpose, which was to use the "sensible pastime" (59d) of playing at anatomical and physiological discussions so as to illustrate the ὑπόθεσις that a good Creator made men's bodies with a beneficient object appealing to our highest and best instincts.

A strange attitude indeed to adopt towards science, even though it be the despised τέχνη of medicine! Strange to us, but not so to many, perhaps most, ancient thinkers. They were artists as well as scientists, and often put scientific truth after artistic truth. The Epicureans took up a similar position to that of Plato when of extraordinary phenomena they gave alternative explanations, all based on the atomic theory, not caring much

which of the several explanations happened to be correct. All they cared about was to demonstrate to their satisfaction that the postulate of divine agency was quite unnecessary.

The Hippocratic *Corpus*

The Hippocratic *Corpus* is a mixed collection of some seventy works, dating with a few exceptions from 450 to 350 B. C. A list of these works, in Littré's order, will be found in the first volume of the Loeb translation pp. xxxviii and xxxix. They present no uniform doctrine and no uniform literary style, except that they are all written in a modified Ionic dialect. They do, however, reflect the mentality of the scientific minds most active in that period, which was one of unscientific (in the modern sense) rationalism.

Medicine, like all true science, has had in its history at least three enemies—superstition, pseudo-philosophy * and rhetoric. The first two profess to solve mysteries; the third is an ornament that often hides the truth instead of adorning it. Faced by disease the superstitious man might say: "This is the work of a devil"; the pseudo-philosopher: "It is due to excess of cold"; the rhetorician: "Disease is but a blessing in disguise." The scientist, on the other hand, looks for the *vera causa*, persevering until he is satisfied that he has found it.

Now in the *Corpus* some works shew slight signs of superstition;[1] pseudo-philosophy is far more common;[2] while two books (*Art* and *Breaths*) are excellent specimens of sophistic rhetoric. Nowhere in the *Corpus* is rhetoric attacked, but superstition is combated in two passages very similar in style,[3] while pseudo-philosophy (that is, ignorant speculation) is put in its proper place by the author of one of the most remarkable specimens of ancient scientific criticism—*Ancient Medicine*. Superstition is always an enemy of science, but there is no reason why a medical work should not be speculative, or at any rate contain a speculative element. There is also no reason why it should not be eloquent or even rhetorical. The important thing is that speculation should be known to be speculation, and rhetoric known to be rhetoric, by both author and reader. Speculation is in place when the imagination needs a stimulus; rhetoric is in place

* This word is used to designate the creed of those who, while abandoning superstition, adopt rational but unverified or unverifiable hypotheses.

[1] See e. g., *Regimen*, IV, lxxix and xc.

[2] E. g. in *Breaths* and *Regimen*, I. But pseudo-philosophy appears sporadically throughout the collection, comparatively few works being altogether free from it.

[3] *Airs, Waters, Places*, xxii, and *Sacred Disease*, I, v and xxi.

when the aesthetic sense has a task to perform. But speculation which usurps the place of demonstration, asserting dogmatically as truth what can only be discovered by patient research, and rhetoric pretending that an ingenious analogy or epigram is equivalent to proof, are both very dangerous deceivers. Speculation cannot establish facts, although it may suggest ways of discovering them; rhetoric can adorn a truth but cannot discover it.

Rhetoric and its abuse were attacked by Plato in the *Gorgias* and elsewhere; superstition and speculation are successfully dealt with in certain books of the *Corpus* which were most probably written before 400 B. C.

Superstition was combated in a manner surpassed by no other thinker of ancient times—not even by Lucretius. Its defeat was final and decisive. Says the writer of *Airs Waters Places*:[4]—

I too think that these diseases are divine, and so are all others, no one being more divine or more human than any other; all are alike, and all divine. Each of them has a nature of its own, and none arises without its natural cause.

Sacred Disease, written either by the same author or by one of his pupils, takes this theme and develops it more fully. Both books are concerned with one particular form of superstition, that which accepts most diseases as natural while assigning a divine origin, "possession," to others because of their strange or startling characteristics. *Airs Waters Places* deals with the "Scythian disease," caused apparently by excessive horse-riding; the theme of *Sacred Disease* is epilepsy, or fits, the being "possessed by a devil" of the New Testament. The writer begins thus:—

I am about to discuss the disease called sacred. It is not in my opinion any more divine or more sacred than other diseases, but it has a natural cause, and its supposed divine origin is due to men's inexperience, and to their wonder about its peculiar character.[5]

Later on he says:—

But this disease is in my opinion no more divine than any other; it has the same nature as other diseases and also the same cause. It is also curable, no less than other diseases, unless by long lapse of time it is so ingrained as to be more powerful than the remedies that are applied.[6]

The creed here set forth is both simple and plain. The world, it is maintained, is uniform in character. One phenomenon must not be considered more "natural" than another. Further, if there be a divinity behind phenomena, he is equally behind all phenomena. There are no

[4] Ch. XXII. [5] Ch. I. [6] Ch. V.

miracles, no irregularities. Nature is everywhere and the divine is everywhere. The two are one, or rather the first is an aspect, a manifestation, of the second.

This is all very Greek in its simplicity, and in its refusal to explain evil by postulating the existence of a devil. A more dangerous enemy, however, was philosophy, which may for the present be roughly identified with deductive, as opposed to scientific or inductive reasoning.

There are in the *Corpus* three works, the writers of which are anxious to bring medicine under the control of philosophic dogma. These are *Nutriment* (already discussed), *Regimen* I and *Breaths*. *Regimen* I [7] is eclectic, borrowing partly from Anaxagoras but mostly from Heraclitus. Its main thesis is that health results from a proper adjustment in our bodies of fire to water, the details being worked out with great skill and subtlety, if not with strict attention to scientific reasoning. *Breaths* has been edited by A. Nelson, and a brief discussion will be found in the second volume of the Loeb *Hippocrates*.[8] This book, an application to medicine of the theories of Diogenes of Apollonia, is a perfect example of the error attacked so fiercely and so skilfully in *Ancient Medicine*, a work which presently will be translated and discussed at length.

In addition to these books, which are entirely dominated by a philosophic, unverifiable hypothesis, there are in the *Corpus* several short passages more or less philosophic in character. Typical is the second chapter of *Fleshes*,[9] a work in parts reminding us of *Sevens*,[10] in which τὸ θερμόν is said to be immortal, to think, to see, to hear, and to know all things "that are and that will be." From this are derived the four "elements"—αἰθήρ, earth, ἀήρ and water.

This tendency to use philosophic postulates in order to explain medical problems stirred up a great thinker to combat it. The little work in which he makes his attack is worthy of the closest study.

[7] There is a thesis in the Cambridge University Library in which Dr. A. L. Peck translates and discusses *Regimen* I. See also the Loeb Hippocrates, vol. iv, pp. xxxviii-xlviii.

[8] Pp. 221-225.

[9] Littré, VIII, p. 583.

[10] A work already discussed. See pp. 6-10.

SECTION II

(a) HYPOTHESES IN GREEK THOUGHT

Philosophy [1] and science represent two sides of mental activity which, to all seeming, are very different in character. The human mind feels the artistic instinct to create, to exercise the constructive imagination, to build; it has also a strong instinct to collect, and to sort the collected specimens into groups or classes. The bond between the two instincts is the love of truth, artistic truth in the one case and exact correspondence to phenomena in the other.

But while different, these two instincts subserve each other. One is a mental stimulus; the other acts as a check on too luxuriant fancy. Philosophy gives inspiration; science supplies material. Philosophy is an architect, who works out a design; science is the manufacturer of bricks and the cutter of wood and stone. Nor are their spheres entirely separate. The philosopher, ideally at any rate, must have the scientific instinct; the scientist, ideally at any rate, must have the philosophic instinct. Perfectly mated the two together result in great progressive leaps in the history of thought.

The right relation between these two activities is difficult to define, and was utterly misunderstood in antiquity, at any rate by most workers in either sphere. They were looked upon as two different ways of reaching truth, sometimes as the ways of reaching different sorts of truth. Only dimly was the conception apprehended that both had a part to play in the attainment of a common goal, that "philosophy" was a "science of the sciences."

All this is very vague—vague as all attempts must be to disentangle two strands that are in part inextricably intertwined. The scientist assumes the rôle of philosopher whenever, by or after examining the relations of phenomena, or of groups of phenomena, to one another, he tries to lessen the gulf between phenomena and reality; the philosopher is a scientist whenever he tries to explain reality by using fully the logical powers, which are by their essential nature the scientific powers, of the human mind. The common ground occupied by each is the region of hypothesis, the goal of the one and the starting point of the other. Both classes of

[1] In this essay, after the first few paragraphs, the wide term "philosophy" is used to denote the special type of philosophy that was studied in Greece from Thales to (at least) Plato. Compare Macaulay's brilliant but biased account of ancient philosophy in his essay on Bacon.

thinkers admit, consciously or unconsciously, that there is some relation between appearance and reality, approaching the task of discovering that relation along opposite routes and from different angles. Their starting points are far apart. The scientist begins with phenomena, rising, if he can and thinks fit, to a greater or less height into the realm of the philosopher; the philosopher begins with a rational speculation, and either builds on it or else sinks, if he prefers that course and has the skill to carry it out, into the realm of science, looking for backward links where the scientist seeks forward links.

Though philosophy is the more abstruse and complex task, it developed, in Greece at any rate, earlier than did its rival. The three hundred years from 600 to 300 B. C. saw its birth in Thales and its maturity in Aristotle, its forbears being superstition and mythology. Science began (because unphilosophic man may, but entirely unscientific man cannot, long survive) with the very dawn of civilisation, but its growth and development were slow and not a little painful. It took more than three thousand years to reach a degree of development comparable to that reached by philosophy in three hundred.

We are now in a position to examine that very elusive and difficult word "hypothesis." Like all words that, technical in origin, have passed into common speech, it has many legitimate, and not a few illegitimate uses. The poet Cowper wrote an allegorical poem describing the defeat of Hypothesis in the sphere of religion. A narrow Evangelical, Cowper looks upon all critical examination of revealed religion as hypothetical, appearing not to realise that the dogmas of revelation contain as many hypotheses as the Deism he was openly attacking.

But most hypotheses, whatever their peculiar characteristics may be, have one characteristic in common. They are generalisations, rational attempts to explain, or at least to make more clear, groups of phenomena that appear in some way to be connected. They are all guesses at truth, and therefore they all contain an element of doubt. With this element of doubt all the various types of hypothesis are closely concerned; for it may be ignored (i. e. the hypothesis is accepted as true) or admitted, or even accentuated.

The dogma of Thales, the first philosopher, who declared that "all things are water," is:—

(a) a generalisation;
(b) a rational attempt to explain phenomena;
(c) a proposition containing an element of doubt, ignored by Thales but accentuated by modern thinkers.

When modern physicians declare that the common cold is the result of an unknown, filterable virus, they make:—

(a) a generalisation, based, however, on far more research than the previous example of a hypothesis;

(b) a rational attempt to explain a group of phenomena;

(c) a proposition, containing an element of doubt, which they try to estimate at its proper value, exerting themselves either (a) to eliminate or lessen it, or (b) to turn it into a positive certainty one way or the other.

In other words, hypotheses differ, not so much in their nature, as in the importance attached, when making use of them, to the element of doubt that all contain.

The Greek word of which "hypothesis" is a transliteration occurs first in *Ancient Medicine*, where it definitely means a theory put forward as a postulate or assumption. In less technical phraseology it sometimes meant a subject put forward for discussion—a "thesis" in fact. Early Greek philosophy, with the exception of some parts of Aristotle, began with a postulate or postulates, from which a system was evolved by deductive reasoning. But it was Plato who first elaborated what may be called a philosophy of hypotheses. The chief original authorities are *Meno* 86 e - 87 c, where the method ἐξ ὑποθέσεως σκοπεῖσθαι is briefly outlined; *Phaedo* 100 b - 102 e, where the "hypothetical" method is contrasted with other methods, and is connected with the theory of Ideas; *Republic* 509 d - 511 e, where hypotheses are connected with what we should call university education, and *Parmenides* 142 b - 166 c, where (apparently) this higher education is illustrated and exemplified. Plato, so far as we can see, recognised three degrees of reality: (1) the highest (the Ideas or Forms), (2) mathematicals (τὰ μαθηματικά) and (3) the lowest or τὰ φαινόμενα. Phenomena are things as they appear to our senses; mathematicals are abstractions (i. e. triangle, square, equal etc.), which we become aware of as our education advances; Ideas are the absolute realities apprehended only by the philosophic mind. Mathematicals are to Plato an improvement upon mere phenomena, but far inferior to τὰ ὄντα or real entities. With the intermediate class, τὰ μαθηματικά, is concerned all "hypothetical" knowledge. There is, Plato thought, a kind of ladder reaching from earth to heaven, from the ever-changing to the ever-changeless. Hypotheses are like the rungs between the two.

How mystical all this is! Yet in reality it is not very mysterious. It

merely asserts that concepts are more real than are individuals, while behind concepts there may be true realities of whose nature we can as yet conjecture nothing for certain.

It is with Plato's *μαθηματικά*, with concepts or universals, that we are chiefly concerned. Plato, as we have seen, distinguished three classes: (1) big things, (2) bigness, (3) the Idea of big; (1) material lines, (2) the mathematician's lines, length without breadth or thickness,[2] (3) the Idea of line; (1) horses, (2) the concept of horse (or horses) in our minds, (3) the Idea of horse; (1) good persons or things, (2) the concept of good, (3) the Idea of good.

It was the third, the Idea, that Plato considered to be the chief aim of an intellectual man's endeavours. He would have us set our affections on things above. Education is, for Plato, a turning of our eyes from the darkness of earthly things to the light of heavenly things, for heaven is our real home, which we must try to enter even while still on earth. Plato looked upon such education as a religious quest, using all his literary skill in describing it.

But it remained a hope, an aspiration. Even when he wrote the *Phaedo* he feared that the bright light of the Ideas might blind him, and so took refuge in a second best, a *δεύτερος πλοῦς*, the copies of Ideas that exist in our minds, not multiplied in matter. Though he struggled to improve his theory he could not bridge the gulf between earth and heaven, and was forced at last to abandon the attempt, and to be content with the inferior intellectual method that seeks to grasp the universal without pushing on to any possible transcendental unity behind it.

But though hope gradually faded, Plato, as far as we can see, based his system of education, his theory of knowledge, his whole philosophy —at least until he wrote the *Laws* in his extreme old age—on the supposition that Ideas exist, even though unknowable by man. The Ideas were replaced by Ideals, but they were always in the background. Accordingly his universals tend to be, not generalisations of phenomena, but concepts evolved from the inner consciousness, not derived from particulars so much as foundations for higher universals.

To Plato hypotheses were the best substitute he could find for *τὰ ὄντα*. His account of them in the *Phaedo* is startling to a modern scientist, whose mind is habituated to the view that phenomena are the foundation

[2] Mathematical concepts were held to be of such importance by Plato that over the door of his philosophy lecture-room were written the words *μηδεὶς εἰσίτω μὴ γεωμετρήσας* "no admittance for those who have not passed the mathematical preliminary."

of every hypothesis, and that the most beautiful theory in the world can be killed by one fact. Socrates is made to say that if faced with the problem of causation he postulates a *ὑπόθεσις*, e. g. that it is because of bigness that big things are big. "And if anyone attacks the *ὑπόθεσις* itself, you must examine its consequences, to see whether they involve any contradiction. But if your opponent refuses to accept the *ὑπόθεσις*, you must postulate a higher (or more universal) *ὑπόθεσις*, until you reach one that is accepted." Presumably this higher *ὑπόθεσις* also will be tested by considering its consequences, that is, the deductions that can legitimately be drawn from it, and seeing whether they are consistent or contradictory. What is not done is to test the *ὑπόθεσις* by an appeal to phenomena. Burnet, the editor of the *Phaedo*, well says[3] that "Socrates had recourse to the method of deduction. Here it is important to remember, first that in the fifth century B. C. geometry had advanced far beyond all other sciences, just because it had adopted the deductive method, and, secondly, that this advance was due to the Pythagoreans. The ideal is that all science should become 'exact science.'" This is well put, but later on he says:[4] "The method of experimental science is the same." It is by no means the same; it is very different, the exact reverse, in fact. For modern science begins with phenomena and ends in hypotheses; ancient philosophy began with hypotheses and ended nowhere. But it is true that the chief difference between ancient thought and modern is that ancient thought was deductive while modern thought is inductive. No clearer sign of this could be found than the second part of the *Parmenides*.[5] Here with an attenuated logic the *ὑπόθεσις* "if the One is" is discussed in relation to the One itself and to the Many, along with the correlative hypothesis "if the One is not." Accurate, clever, subtle, logical as they are, these disquisitions have not the slightest interest for the modern scientist. They make no appeal to his mentality, being entirely detached from what we are taught to regard as reality. They are splendid examples of formal logic without being of any value as scientific method.

Aristotle never had any faith in Platonic Ideas, regarding universals, or specific form (perhaps the individual [*τόδε τι*] as representative of specific form) as the truest essence. With his interest in natural history Aristotle might have anticipated Roger and Francis Bacon, had not the influence of Plato been so strong as to thwart the development of any thorough inductive method. Indeed, induction to a Greek philosopher was something very different from modern scientific method. Aristotle,

[3] On 100a 3, p. 109. [4] On 101d 3, p. 113. [5] 137 c ff.

an acute logician—by far the best before quite recent times—gives but a sketchy account of it, reducing it to a kind of syllogism.[6] The ἐπακτικοὶ λόγοι, attributed by Aristotle[7] to Socrates as one of his two contributions to philosophic thought, are shown by A. E. Taylor[8] to mean, not an inductive scientific method, but "simply appeals to facts to confirm a theoretical conclusion." The example of Socratic *inductio* given by Cicero[9] is strongly confirmatory of Taylor's view. If a *socius*, a *tutor*, a trustee, ought to keep faith, so ought a *procurator*. In fact the nearest approach in ancient thought to modern scientific method is to be found in despised Epicurus, who asserts that every theory (δόξα, ὑπόληψις) must be subjected to tests. If it be confirmed and not contradicted, it may be considered true; if it be not confirmed, or if it be contradicted, it is false.

The Hippocratic pamphlet, *Ancient Medicine*, is, if we exclude Plato, the most important extant evidence for the nature of ancient thought. Theodor Gomperz regards it as a pioneer work on the method of positive science.[10] Such a claim, however, needs close scrutiny before it can be accepted. The unknown author indeed banishes ὑποθέσεις from the science of medicine, confining them to what we should call the sphere of religion (τὰ μετέωρα and τὰ ὑπὸ γῆς). But what would he put in their place? Not careful, exhaustive classification of phenomena, not the testing of hypotheses by observation and experiment, but a rough empiricism. He relies entirely on a few rules of treatment suggested and confirmed by use and long experience. His main theme, that medicine is a refinement of dietetics, is as hypothetical as the ὑπόθεσις, which he rejects, that all diseases are due to heat or to chill. Cures indeed are more likely to be effected by those who follow the author's advice, because this is sounder doctrine than that of his opponents; both, however, are hypothetical.

It is perhaps in chapters XX and XXI, regarded by some scholars as interpolations, that we find the closest resemblance to the spirit of modern science. In chapter XX the need is emphasized for further research into the reaction of individuals to various foods, and in XXI are condemned rash assumptions that *post hoc* in regimen is necessarily *propter hoc*. The rest of *Ancient Medicine* rejects crude ὑποθέσεις while accepting without question ὑποθέσεις of greater verisimilitude—without realising in fact that they *are* ὑποθέσεις. The book is a convincing protest against the philo-

[6] See e. g. *Topica*, I, 12, 105 a, and *Analytica priora*, II, 23, 68 b.
[7] *Metaphysics*, M, 1078 b.
[8] *Varia Socratica*, pp. 70-80.
[9] *Topica*, X, 42. Cf. *de inventione*, I, 35 (61).
[10] *Greek Thinkers* (English translation), I, 297-310.

sophical, deductive reasoning from postulates when applied to a τέχνη or science, but its positive contribution to scientific medicine is far less. The writer's critical powers are greater than his constructive ability.

Ancient thought, therefore, owing to the advanced state of geometry, had mastered the technique of deduction without understanding the means whereby correct premises for use in deductive reasoning could be formulated. Induction being very imperfectly understood, thought was one-sided, biased, top-heavy. The collection of *data*, as moderns understand it, accurate measurement, and the value of experiment, were either impossible or at least unappreciated. Medical science, realising that a purely deductive method was inapplicable to the natural sciences, could only substitute a rough empiricism, itself far from innocent of pseudo-philosophic hypotheses. Nevertheless, a protest was made, and it is only fair to medicine, to Greek physicians and to the author of *Ancient Medicine* in particular, to assign to this little work the fullest credit for detecting the inherent, the fatal flaw in the method of the first serious students of natural science. It was not, be it noted, a bad method in itself. In some spheres it is the correct, perhaps the sole method; the error lay in transferring it from spheres where it did apply to sciences where it did not.

(b) PHILOSOPHY AND MEDICAL ETIQUETTE

Philosophy and medical science met in conflict towards the end of the fifth century B. C. A hundred years or more later they met again, this time in perfect harmony.

It was because fifth-century philosophy had a method and system of its own, which had achieved wonderful results in certain spheres, particularly in that of mathematics, that many enthusiasts were anxious to extend the range of its activity so as to include medicine and perhaps other natural sciences. This effort was doomed to failure sooner or later, because the hypotheses of natural science are not to be apprehended intuitively, as are those of mathematics, but need to be led up to by a slow and laborious process that was utterly uncongenial to the Greek mind.

The later influence of philosophy on medicine was of an entirely different character, and the results were very happy.

In the interval between 400 and 300 B. C. the nature of philosophy, or more accurately the branch of knowledge of most interest to philosophers, changed; metaphysics and physics gave place to ethics. Ethical problems and moral perplexities interest men of all races as soon as they learn to

think and to reason. The Greeks began to formulate principles of conduct at least as early as Democritus, who was followed by Socrates and Plato, the co-founders of the first ethical system. Finally Aristotle, without neglecting metaphysics or natural science, carried ethics to a pitch of development from which it descended rather than rose until the great advances made in the nineteenth century. After Aristotle the centre of gravity (so to speak) of philosophy shifted from all other branches of knowledge to the science of conduct, which absorbed the intellectual energy of the two great post-Aristotelian schools, the Stoics and the Epicureans. Both of these derived their physics from their ethics rather than *vice-versa*. So it might have been expected that medicine would feel the influence of the new way of thinking. For a physician's duty is not confined to a knowledge of medicine and surgery; he is concerned with men as well as with scientific laws. Unless he can win the confidence and esteem of his patient, a doctor can do little or nothing; with these on his side his scientific knowledge grows immensely in value. In other words, medical etiquette is far more important than any other form of etiquette.

" Etiquette " is not used here in its narrow sense of mere manners or trade-union rules, but in its wider sense of correct professional conduct. Greek medical etiquette, **εὐσχημοσύνη** as it was called, was concerned, not so much with the good of the profession, as with that of the patients. It safeguarded their interests, not the fees and professional status of practising doctors. The Greek felt instinctively that the good of the doctor depended upon honourable behaviour towards the sick folk committed to his care. So **εὐσχημοσύνη**, which we may perhaps translate " decorum," insisted that the doctor's knowledge and skill should be duly and properly used.

Although both Epicureans and Stoics devoted themselves chiefly to ethical study, yet it was the Stoics who laid more stress upon the honourable discharge of duty; the Epicurean had more interest in medicine as a means of alleviating suffering and pain.

The Hippocratic works most concerned with etiquette, or conduct of the doctor, are **Παραγγελίαι** (*Precepts*), **Εὐσχημοσύνη** (*Decorum*), **Ὅρκος** (*Oath*) and **Νόμος** (*Law*). To these may be added the first chapter (at least) of **Περὶ Ἰητροῦ** (*Physician*).

Judging from these five works we should say that the **εὐσχήμων** (or orthodox physician) was bound:—

(1) to call in a consultant when necessary;
(2) to act as consultant when requested;

(3) to take into account a patient's means when making up his fees;
(4) to be clean in person, and in particular to abstain from wine when visiting his patients;
(5) to cultivate the philosophic frame of mind, with its distinctive marks of dignity, reserve and politeness.

On the negative side the εὐσχήμων was bound not:—

(1) to give poison, or to be privy to the giving of it;
(2) to cause abortion;
(3) to indulge his sexual appetite through an abuse of his position;
(4) to disclose information, whether heard professionally or in everyday conversation;
(5) to advertise obtrusively, e. g. by giving an ἐπίδειξις or "display" lecture. To act as public physician without payment was a means of advertising to which no objection could be taken.

According to Galen,[1] a surgeon often concealed the person of his patient in order to prevent those present learning methods he wished to keep secret. Accordingly we infer that etiquette did not require the publication of new discoveries, as it does today.

The essential difference between ancient etiquette and modern is the absence in ancient times of an external force which tried to control professional conduct. Today the General Medical Council[2] can expel a man from his professional status; in ancient times a professional physician was thrown upon his honour (αἰδώς). This vague sanction accounts for the prevalence in ancient times of quackery, whether pure or diluted. Between the quack and the legitimate practitioner there is a "great gulf fixed" today, but 2,500 years ago the two classes "shaded into" one another, and there was no line of demarcation fixed by law.

The reason for all this vagueness is, as we have said, the absence in ancient times of strong external control. Today there exists the pressure of (a) the common law, and (b) the General Medical Council, to keep practitioners well under control of the general public; in ancient times there was nothing except αἰδώς, the subjective feeling of shame without any compelling, controlling force from outside. So we see that in modern times there is stricter control, but that this control is within much narrower limits.

[1] XVIII, pt. II, pp. 685 ff.
[2] The supreme authority in Great Britain.

There are today certain things a practitioner must not do unless he is prepared to run the risk of expulsion from his profession or perhaps of punishment as a criminal. These things are (naturally) few, as drastic punishment is required only for exceptional offences; but the scope of ancient medical etiquette, free from the constraint of the law, comprehended everything that could be regarded as a matter of honour or of common decency. That medical etiquette was thus free from external discipline is plain from a sentence in the tiny tract called *Law*, not the least interesting item in the Hippocratic *Collection*. In the very first section of it we read: "Medicine alone in our States has been made subject to no penalty except dishonour, and dishonour does not wound those who are compacted of it."

The outline of the etiquette contained in our authorities—some of them are little more than pamphlets—has already been drawn, and the details have been fully discussed in the Loeb edition of Hippocrates and in a paper read before the Royal Society of Medicine.[3] One thing only remains to be discussed here—how far was this etiquette due to later (that is to say Stoic or Epicurean) philosophy, and how far was this philosophy due to the influence of medical doctrine and medical practice? Unfortunately we have no work for this later phase analogous to *Ancient Medicine* for the earlier phase of philosophic influence. Accordingly, any conclusion we may reach is, and must be by the very nature of the evidence, hypothetical to a degree. Practically all we can say is that the high standard of conduct advocated in all these tracts of the Hippocratic *Collection* is strongly suggestive of the *sapiens* or sage, particularly of the Stoic sage.

Were it not extremely doubtful whether many Hippocratic works are literary wholes and not composite treatises made up of fragments, it would be possible to speak with greater confidence about the inspiration of these little essays. For the first and second chapters of *Precepts*—at any rate the first chapter, to which the second is naturally joined—are Epicurean in their epistemology. The definition there given of λογισμός (general proposition, theory) is remarkably similar to the definition of πρόληψις (= δόξα, opinion, view, hypothesis) given by Epicurus as quoted by Diogenes Laertius X 20, 21, §§ 32, 33. Compare X 24, § 75. The verbal similarity is very close, and a word suggestive of the Epicurean theory of knowledge (ἐναργής, ἐναργῶς) occurs three times in the first chapter. Accordingly, the beginning of *Precepts* is undoubtedly from an Epicurean source. Unfortunately, it cannot be argued that the chapters dealing with

[3] Jan. 1923.

etiquette (III-XIII) are likewise of Epicurean origin, because additions of odd, isolated fragments were often made by ancient booksellers or scribes to the beginning or end of a book, either to preserve interesting scraps in a suitable place, or else, in the language of Littré, "comme dit Galien, pour grossir le volume, soit pour placer quelque fragment qu'on ne savait où mettre." [4] Now probably the first two chapters of *Precepts*, and certainly XIV, the last chapter, are additions of this kind.

Nevertheless, the picture of the perfect physician as a dignified gentleman of unruffled calm, given in the main portion of the book, is very like the Epicurean sage, much in the same way as the ideal doctor of *Law* and *Decorum* resembles the Stoic wise man, toned down, as it were, and made more human, so as to be accepted by the ordinary "man in the street."

The most remarkable document dealing with medical etiquette, the famous Hippocratic *Oath*,[5] does not appear to be directly connected with philosophy. Its striking clauses, simple yet dignified, bear no resemblance to the peculiar doctrines of any particular philosophic school, but spring from the deepest moral instincts of mankind. After a few sentences in which the novice swears to treat his master's family and his own as a band of brothers, a sort of guild with trade-union rights, teaching them medicine, if they wish, "without fee or indenture," and "to indentured pupils who have taken the physician's oath, but to none other," comes the ethical part of *Oath*. A literal translation of it is added here, one very disputed clause, which some think is an interpolation, being omitted.

"I will use treatment to help the sick according to my power and judgment, but not to do them injury or wrong. I will not give poison either to anybody though asked to do so, nor will I suggest such a plan. Similarly, I will not give a pessary either to a woman to cause abortion. But in purity and holiness I will keep both my life and my art [6]. . . . Into whatsoever houses I enter, I will do so to help the sick, abstaining from all wrong-doing and harm, especially from fornication with women or men, bond or free. Whatsoever I see or hear in my practice, or even outside

[4] *Oeuvres d'Hippocrate*, IX, 248.

[5] This was written before I had read L. Edelstein's magnificent study of *Oath*, in which he cleverly attempts to show that it is Pythagorean (Baltimore, 1943).

[6] The omitted sentence is perhaps the most disputed *locus* in Hippocrates. The manuscripts M and V have: "I will not operate even on sufferers from stone, but will give place to such as are craftsmen in surgery." This ban on surgery cannot be reconciled with Hippocratic practice, and has been considered to point to either an interpolation or a late date for *Oath*. The reading in the Milan MS. Ambrosianus 113B. sup., means, "nor will I allow assistants, whether my own or not, to perform this operation," i. e.

my practice in social intercourse, that should never be published abroad, I will not divulge, but consider such to be holy secrets. Now if I keep this my oath and break it not, may I gain for ever among all men repute for my life and my art. But if I break it and perjure myself, may the opposite befall me."

Oath was perhaps known to the contemporaries of Aristophanes. It is not mentioned by Galen, but is by Erotian. There are two copies, cruciform in shape, of a form of *Oath* modified " so that a Christian can take it." The pagan deities and the trade-union clauses are left out, but the remainder is without doubt technically an oath in spite of the omission of " I swear." So the Christian adapter was not concerned with the forbidding of all oaths to Christians so much as with the un-christian character of the divine " witnesses " and of the " trade-union " clauses. The former are obviously pagan, the latter are contrary to the Christian doctrine of universal charity.

abortion. This is a sense that clears away every difficulty, except why, if it be correct, the vulgate reading arose.

SECTION III

INTRODUCTION TO *ANCIENT MEDICINE*

Modern Hippocratic criticism concerns itself chiefly with three questions: (1) the author of a work or the school of thought to which it belongs; (2) its date, and (3) its affinities to other works in the *Corpus*.

Subsidiary to these main questions come discussions of the text, of Hippocratic grammar and of the Hippocratic dialect.

As all the books of the *Corpus* are anonymous, most of them being roughly written text-books and not polished literary works, it is not surprising that the questions mentioned above prove unusually difficult, so that equally competent scholars come to strangely opposite conclusions.[1]

Even the dialect is, as yet, by no means settled. In the first volume of the Teubner edition (1894) H. Kühlewein, relying chiefly on the Paris manuscript A, set forth a scheme the application of which altered entirely the appearance of the traditional text, giving it an almost Attic look. I. L. Heiberg, however, in the first volume of Hippocrates in the *Corpus Medicorum Graecorum* (1927), has reverted in many cases to the Ionic forms of the *textus receptus*.

Perhaps the most baffling difficulty of all is that of deciding to which "school" a work belongs. The medical sects seem not to have been so sharply separated in thought as were those of philosophy. The need for cures resulted in a certain degree of uniformity in practice; and of theoretical doctrine, which all successful practice requires, it was only the more speculative kind that allowed wide variations. Even here there was greater uniformity than might have been expected. The writer of *Anonymus Londinensis*, for instance, divides medical theorists into two classes only:—

(1) those who attribute diseases to περισσώματα or residues, which breed poison in the system;

(2) those who attribute them to disturbances in the balance of the elements of which the body is composed.

Though each class has its sub-varieties there is no third class.

Similar views therefore in Hippocratic works do not necessarily prove community of origin. We must look out for views (if we know of them)

[1] E. g., H. Wanner (*Studien*, pp. 93-99) maintains that *Ancient Medicine* is Cnidian; W. A. Heidel, *Hippocratic Medicine*, p. 83 says: "In any case, *Ancient Medicine* bears none of the marks of the Cnidian."

held by one school and by nobody else, and for similarities in numerous details, trying to detect borrowings and accidental likenesses. Good brains, however, may arrive independently at the same conclusions, and there are also eclectics, conscious and other.

Ancient Medicine appears to be, unlike many books in the *Corpus*, a finished, carefully constructed work, containing a polemic, a theory of medicine and a few notes or appendices.

Here is a skeleton analysis:—

A protest against the intrusion of philosophic speculation into medicine, with a defence of the old, well-established method. (ch. I-III).

The origin of the art of medicine in the art of dietetics and regimen. (ch. IV-XII).

The comparative unimportance of the four traditional opposites, particularly heat and cold, in both health and disease. (ch. XIII-XV).

The importance of certain humours and δυνάμεις as compared with heat and cold. (ch. XVI-XIX).

Various *addenda*. (XX-XXIV).

Before discussing questions arising out of the work it would be well to give a fuller outline of the argument.

The author rejects postulates (ὑποθέσεις) as a basis for medical science, which is a τέχνη with its own method, and declares that the causes of diseases cannot be reduced to one (or two) such as heat or cold. Postulates are required only in regions outside the range of positive knowledge, where an appeal to tests is impossible. (ch. I).

The true principles and methods of medicine have long been known, and have been tested by experience, so that to reject them for novelties based on conjecture is bound to lead to disaster. The physician must make himself understood by laymen, as the subject matter of the Art consists of symptoms (παθήματα) familiar to the patient. If these be expounded in language that is equally familiar, the patient has merely to exercise his memory in order to react properly to diagnosis and prognosis, thus establishing the right relation between himself and his physician. (ch. II).

The Art is but a refinement of regimen. Men in health need more refined food than do brutes, and sick folk more refined food than do men in health. The gradual discovery of foods to suit all conditions of men finally resulted in the birth of medicine. (ch. III).

Though the popular reluctance to regard dietetics as the genus of which medicine is a species is not unnatural, yet examination shows that medical treatment is historically only a modification of regimen in health. It is the strongest foods (τὰ ἰσχυρότατα) that do harm in both health and disease,

and what is "weak" in the former may be "strong" in the latter (ch. IV-VI).

Further exposition of the thesis that medicine is only a refinement of dietetics. (ch. VII-XII).

The hot, the cold, the moist and the dry are not the causes of disease, for they are not applied as remedies in illnesses supposed to be caused by their opposites. The remedies actually used are changes or refinements of regimen. The first discoverers of medicine acted on the principle that it was not these opposites that cause disease, but *τὸ ἰσχυρόν* of the various components of the human body, namely *τὸ ἁλμυρὸν καὶ πικρὸν καὶ γλυκὺ καὶ ὀξὺ καὶ στρυφνὸν καὶ πλαδαρὸν καὶ ἄλλα μυρία*, possessing all sorts of *δυνάμεις* varying in strength (*ἰσχύς*) as well as in number. When mixed and blended (*μεμιγμένα καὶ κεκρημένα*) these are neither obtrusive nor harmful, but in isolation they are both. All the normal foods of the normal man are free from such potent ingredients, forming a single, simple whole. (ch. XIII, XIV).

Heat and cold have less influence on the body and its well-being than any of the "powers"; there is a strong tendency for each to neutralise the other spontaneously. (ch. XVI).

An objector may retort that certain fevers do not intermit; the feverishness of e. g. *causus* and pneumonia is not divided up by periods of chill. The writer maintains that such examples strengthen his case rather than weaken it, by showing that the cause of these diseases is not heat or cold, but the other powers which accompany them. (ch. XVII).

The phenomena of coction (*πέψις*) show that no disease is caused merely by excess of heat or cold; the *δυνάμεις* of humours also come into play. Any uncomfortable condition resulting from cold is cured by heat alone, and *vice versa*; relief from e. g. bilious complaints can be obtained only by a restoration of *crasis* by purging or other suitable means. (ch. XVIII and XIX).

(Some scholars think that the original work ended here, and that ch. XX-XXIII are an addition, and that ch. XXIV is an interpolation).

What is the interrelation between general science and medicine? Some maintain that a knowledge of man, of his origin and component elements, must be acquired before a physician can be said to be properly educated. But such knowledge of mankind is the province of philosophy or natural science. Nay rather, natural science can be acquired only through medicine. The reactions of the human body to foods, drinks and habits form the theme of genuine medicine. (ch. XX).

There is a great risk in medicine of confusing *post hoc* and *propter hoc*.

Illnesses may be due to the shapes ("structures," σχήματα) of the internal organs, as well as to the δυνάμεις. (ch. XXII and XXIII).

A brief return to the humours and their δυνάμεις (XXIV).

Ancient Medicine consists of (a) a polemic and (b) an exposition of a method. The polemic is directed against the intrusion of postulates (ὑποθέσεις) into medicine. The author is the first of extant writers to use the word ὑπόθεσις, which, whatever its meaning in Plato and Aristotle, means in *Ancient Medicine* an unverifiable assumption or postulate.

The polemic is of great general interest, as it raises the question of the relation of speculation to knowledge, of theory to practice, or, to use the Greek technical terms, of ὑποθέσεις to ἐπιστήμη.

The author is especially worried about one particular ὑπόθεσις, that disease is caused by heat or cold, which as an empiric he rejects, basing the art of medicine upon observation of the effects of various foods, drinks and so on, but his discussion suggests that he had his own views about the scientific value of ὑποθέσεις generally.

A modern thinker would probably look upon a great deal, if not all, of the positive doctrine in *Ancient Medicine* as hypothetical, some of it highly so. We must remember, however, that much which to us is hypothetical appeared to the Greeks, ignorant as they were of scientific psychological analysis, to be obvious facts. Things were self-evident to them which to us are speculation, just as the "man in the street" today believes that he sees an orange, whereas the psychologist knows that he merely sees a coloured shape; that it is an orange is an inference, an interpretation of phenomena which may later prove to be inaccurate. We are, in fact, often guessing at truth and calling it observation.

The author of *Ancient Medicine* is honestly afraid lest the practice of medicine should be harmed by the use of ὑποθέσεις, but there is little or no evidence that medical treatment was seriously affected by such speculation. There are, in fact, as it were various *strata* of theory. Some theory, perhaps simple and elementary, is applied directly to practice; other theory is less applicable, directly at any rate; finally, theory becomes almost wholly detached, a creature of fancy and imagination. The ὑποθέσεις attacked in *Ancient Medicine* are of the last kind. They are not seriously intended to influence clinical treatment; they are more of a pastime than a contribution to hospital practice.

Such guesses have their use in furthering the progress of scientific thought. Observed facts need explanation and interpretation before they can be used to advantage. Every research student must be a good guesser, and ought to cultivate and train his powers of constructive imagination.

But he must be aware of what he is doing; he must not confuse his guesses with accurately observed facts, or with well verified hypotheses, nor think he has gained knowledge when he is only speculating. Youth is the period which is most moved by the instinct to conjecture with daring and even reckless profusion. The curiosity of a child expresses itself not only in many questions but also in many guesses at the answers. So early Greek thinkers, Peter Pans in heart and mind, threw out ὑποθέσεις to an extent that bewilders the modern historian, who has learned the importance of disciplined restraint.

The guesses at truth which annoyed the writer of *Ancient Medicine* were, if not scientific, at least rational, and believed by many simply and solely because they were rational. In other words, aesthetic truth was not yet distinguished from scientific truth. The Greek loved a completed picture, and could not see why we must often be content with fragmentary knowledge. He wanted to fill up the gaps in knowledge from material derived from his imagination. Plato himself did this when he inserted myths in his rigorously philosophic dialogues. But he knew what he was doing, and was alive to the dangers incurred. Much of Plato's antagonism to fine art was due to a conviction that aesthetic beauty might cause blindness to real knowledge, though knowledge for him meant something very different from the modern conception of it.

The author's polemic is easily understood; his positive doctrine is more difficult to appreciate, chiefly because all modern minds have a background of concepts entirely different from that of a fifth-century Greek. In particular, moderns can deal with abstractions and qualities without confusing them with the realities from which they are abstracted. In *Ancient Medicine*, however, τὸ θερμόν seems to waver between abstract and concrete, verging now on the one and now on the other. Bearing this truth in mind we may roughly and briefly sum up the author's views.

(1) He holds the same theory of health as did Alcmaeon of Croton, physician and friend of the Pythagoreans, namely, that it is an harmonious blend, or equal balancing, of an indefinite number of simple " opposites."

(2) Disease results from any disturbance of such a harmony, which must be restored by careful attention to diet and regimen. This latter may, if unsuited to the constitution of men, actually cause illness. So treatment in illness should consist of a reduction in the strength of the powers of nutriment until this nutriment is weak enough for the weakened body to assimilate (ἐπικρατεῖν). The interrelation, however, between the strong powers of the body and those of nutriment are not clearly defined,

although what appears to be a fragmentary note on the question takes up most of the last chapter.

(3) Great stress is laid on careful formulation of general statements about foods, and upon accurate measurements of the effects of various foods upon constitutions of various kinds and in various degrees of health. Perfect accuracy the author does not think has yet been attained, but approximate accuracy in certain departments of medicine has resulted from the application of reason (λογισμός) to the material collected by present and past observers.

A modern scientist finds much to commend in the author's treatment of the subject. The rejection of unverifiable hypotheses, the importance attached to observed phenomena and to reasoning based on them, the appreciation of the value of measurement and accuracy, are all signs of a truly scientific attitude.

On the other hand, though perhaps greatly in advance of his predecessors, the author in some respects just falls short of what he might have been expected to reach. He is groping, not perhaps in the dark, but in a twilight. While rejecting unverified postulates he himself makes many rash general statements which he would have found difficult to prove. To him perhaps these generalisations seemed to be observed fact, intuitively apprehended and needing no proof. Though he can distinguish *post hoc* from *propter hoc*, and give a very clear definition of "cause," yet he fails to see, or at least to notice, that invariable concomitants may be consequences and not causes.

It is not surprising that so early a thinker failed to realise that:

(1) a theory cannot be entertained unless it accounts for all the available evidence;

(2) all theories are tentative, and must be subjected to the test of fresh evidence as this becomes available;

(3) when the available evidence is too scanty, it must be supplemented by carefully conducted experiments.

The author describes one experiment only, and this is more like an analogy or illustration than a true experiment. It occurs in a chapter the opening sentence of which flatly contradicts, at least in appearance, the assertion made in chapter XIX that *all* diseases are the result of intense δυνάμεις. Some scholars think chapter XXII a later addition, others that it is similar to a modern appendix or additional note. If it be the latter, the author might have drawn the reader's attention to the fact that he

wished to apologise for a too comprehensive generalisation and to explain its exceptions.

It should be noticed that the neglect of experiment by the early Greeks was due, partly to the impatience of young minds, which rush to conclusions by guessing, and partly to the great wealth of material which presented itself to the eyes of early Greek thinkers. Pioneers, with so many fresh phenomena waiting to be observed, they felt no urge to manufacture more. Having abundance they saw no need for superabundance.

It is worth while considering whether this opponent of the philosophic method was himself influenced at all by philosophic thought. There is a reference in ch. XX to Empedocles, but the writer merely reiterates what he has already urged, that medicine is not concerned with the natural science of the day, adding that medicine leads to natural science rather than *vice-versa*.

In ch. III Diels [2] sees a reference in "brutish regimen" to Democritus. The *πάντων μέτρον ἄνθρωπος* of Protagoras seems to be alluded to in the sentence: "But no measure, neither number nor weight, can be found, reference to which would give accurate knowledge, other than the feeling of the body." (ch. IX). In ch. XIV there is a fairly certain allusion to a doctrine of Anaxagoras: "These when mixed and blended neither are manifest nor cause pain; but when one of them has been isolated and set apart by itself, then it both is manifest and causes a man pain." [3]

Of greater interest, perhaps, is the hypothesis of Wanner, after Max Wellmann,[4] that throughout *Ancient Medicine* are clear signs of Pythagoreanism. This scholar relies chiefly on the admitted Pythagorean interest in dietetics, and on the similarity of the chief foods discussed in *Ancient Medicine* to the typically Pythagorean foods mentioned in fourth-century comedy.[5] The hypothesis would have been strengthened considerably if *Ancient Medicine* had a marked vegetarian bias; but although bread and barley-cake are the chief foods discussed, there is no reference to vegetables, and in three places [6] meat is mentioned as part of a normal diet,

[2] Diels, *Pre-Soc.*, Lieferung 4, p. 135.

[3] Cf. Anaxagoras fr. 4 (Diels).

[4] In Sudhoff's *Archiv für Geschichte der Medizin*, Bd. 23, 1930, M. Wellmann argues that the author of *A. M.* was a Pythagorean follower of Alcmaeon, and a Cnidian empiric, who wrote an *ἐπίδειξις* asserting the wise methods of the *ἀρχαῖοι*, i. e. early-Pythagorean doctors, pupils of Alcmaeon. Plato in *Phaedrus* 270 c makes the historical Hippocrates a dogmatist. Wellmann thinks that the likeness of certain chapters in *A. M.* to *Regimen in Acute Diseases* is due to their having a common source, which was perhaps Alcmaeon himself.

[5] *Studien*, pp. 56 and 57.

[6] See chapters VIII and XIII.

in one of which *οἱ ὑγιαίνοντες* are said to find benefit from eating it. There is some uncertainty, however, how far Pythagorean vegetarianism was strictly observed,[7] so that there is nothing to prevent a Pythagorean book from welcoming or at least accepting a meat diet.

That the author of *Ancient Medicine* had Pythagorean sympathies is a very natural assumption from his obvious debts to Alcmaeon, who, although he may not have been actually a member of the order, was certainly closely associated with it, as Aristotle expressly states. We are therefore prepared for any links, however fragile, such as the use of the verb *ἁρμόζω* in III and V, which point to connections between *Ancient Medicine* and the Pythagorean school; Wanner e. g. draws attention to the importance attached to external applications, and to the indefinite number of the "opposites" recognised.

There are, in fact, views and tendencies in *Ancient Medicine* with a close resemblance to those of the Pythagorean School. It does not follow, however, that the author belonged to it; it may be that he was a man ready to adopt views from any thinker or school of thought that appeared likely to prove of value to a practising physician. Doctors, from the very nature of their profession, are, or should be, inclined to a wise eclecticism; if they differ or quarrel, it is about their theories rather than about their practice. The urgent need to cure their patients leads them to get help wherever they can. The exceptions to this only prove the truth of the general rule.

If *Ancient Medicine* be really Pythagorean the view of Burnet[8] and Taylor,[9] that Plato's theory of Forms was derived through Socrates from ultimately Pythagorean sources, receives strong—almost overwhelming—confirmation. In the XVth chapter the author uses nomenclature,[10] unmistakably Platonic, in a sense analogous to Plato's, although certainly not identical with it. We should have a pre-Platonic thinker, with Pythagorean leanings, familiar with ideas and technical terms that we have been led to believe owed their origin to Plato himself. There is one alternative; it may be that the resemblance of the two nomenclatures is accidental, that the technical terms used are ordinary words or phrases that have a technical sense in Plato only. This is a tenable position, but one which few venture to hold after a careful study of the passage in the XVth chapter.

[7] See Zeller, I, pp. 345, 6 with the references in note 5, especially Diogenes Laertius, VIII, 20.

[8] E. g. in his edition of the *Phaedo*.

[9] See *Varia Socratica*, especially essays I and IV.

[10] *αὐτό τι ἐφ' ἑωυτοῦ θερμὸν ἢ ψυχρὸν ἢ ξηρὸν ἢ ὑργὸν μηδενὶ ἄλλῳ εἶδει κοινωνέον.*

Wanner is also of opinion that the author was a Cnidian, or at least held views similar to those of the Cnidian School. Like the Cnidians he recognises especially two humours, phlegm and bile;[11] he does not consider environment important; in his description of diseases his views and terminology are Cnidian.[12] Special stress is laid by Wanner on the close likeness of X-XII of *Ancient Medicine* to XXVIII-XXX of *Diet in Acute Diseases*.[13] Recent criticism regards the latter as Cnidian;[14] and the polemic with which it opens as a friendly attack on the writer's predecessors.

At most, this evidence points only to sympathy with Cnidian views; we are not reminded as we read *Ancient Medicine* of Galen's[15] account of Cnidian eccentricities. Heidel,[16] on the other hand, can see nothing Cnidian in *Ancient Medicine*.

How deceptive superficial or chance likenesses may be is well illustrated by the use of the adjective ἀρχαῖος. In *Regimen in Acute Diseases*[17] it is almost certainly applied to the older members of the Cnidian School. Then again, in the introduction of *Anonymus Londinensis*, οἱ ἀρχαῖοι show a resemblance to the Cnidian Herodicus,[18] besides being interested, as were the early Cnidians, in the nomenclature of diseases and their elaborate subdivision.[19] It is a tenable hypothesis that the adjective ἀρχαῖος was often applied to the early Cnidians. If so, may not περὶ ἀρχαίης ἰητρικῆς mean *On Cnidian Medicine*, and Wanner's view receive triumphant verification? Yet surely Wanner, with every other careful reader, knows that the adjective ἀρχαῖος in the title means "old and honoured"—the Latin *priscus* in fact.

Wanner also detects some Italo-Sicilian influence,[20] but the author is opposed to Empedoclean philosophy, and to the cosmology on which the Western medical school laid great stress.

We may sum up by saying that while the author of *Ancient Medicine*

[11] *Studien*, p. 94. But so does "Dexippus the Coan," *Anonymus*, XII.

[12] *Studien*, p. 44.

[13] *Studien*, pp. 93 and 97. The likeness is truly startling. See Note E.

[14] *Studien*, p. 93, and reference in note (3) to J. Ilberg's work on the Cnidian School (1925); p. 94, note (5).

[15] See (Kühn) I 128, XV 363, 419, 427, and V 761. See also the Loeb *Hippocrates*, II, xiv-xix.

[16] *Hippocratic Medicine*, p. 83.

[17] See the Loeb Hippocrates, II, p. 64, note 1. This note was written by one who knew nothing of the theory that this book is Cnidian.

[18] See *Anonymus*, I, 1-5 and V, 1-21.

[19] *Anonymus*, III, 7–IV, 17.

[20] *Studien*, p. 97.

has sympathies with the doctrines held by various philosophical and medical schools, yet he is a fanatical adherent of none. These sympathies, in fact, are partial, not extending to extremes or eccentric peculiarities; he has one passion only—science as embodied in the τέχνη of medicine.

To this passion he makes everything subservient; it gives, in fact, the clue to most of the puzzles presented to us by *Ancient Medicine*. The writer is ready to borrow from any source, to reject or to modify any doctrine, however great its backing or popularity, if by so doing he can further the rational, thorough and accurate study of medical phenomena. Being human, he has his prejudices; being a pioneer he leaves gaps and errors that annoy, but do not surprise us. In spite of this, however, he outlines and defends a scientific method which, we moderns are tempted to think, ought to have revolutionised Greek thought. That it did not do so was due to the power and influence of Greek philosophy, and especially to the persuasive dialectic and artistic skill of Plato. This failure however to overthrow the tyranny of the philosophic method does not detract from the merits of *Ancient Medicine* as the work of a wise eclectic and a careful empiric.

The interests and sympathies of the author lead up to his personality. That he was a practising physician is a reasonable supposition, but one which cannot be proved. His date can be ascertained with some degree of accuracy, for he lived after Empedocles, Anaxagoras, Protagoras and perhaps the Sophists,[21] but before their doctrines were forgotten or out of date. His scientific method is thought by some to have had much influence upon Thucydides' conception of history.[22] The use of the word σοφιστής[23] in a good sense (scientific thinker or philosopher) suggests that Plato had not yet succeeded in attaching to it the derogatory meaning it was to have later on.

The date of composition, therefore, probably falls between 430 and 400 B. C. Uncertainty, however, and difficulty face us when we try to name either the philosopher-physicians attacked or the author himself.

Several thinkers between Empedocles and Plato held views similar to those described in the first chapter.

In *Generation*,[24] for example, diseases are said to be caused by the four forms of the moist, and the same doctrine is found in *Diseases* IV.[25] In

[21] See Wanner, pp. 81-92 (*Sophistisches*).
[22] See C. N. Cochrane, *Thucydides and the Science of History*, pp. 14-34.
[23] Unless, indeed, σοφιστής always has a good sense in Ionic.
[24] Ch. III (Littré, VII, 474).
[25] Ch. XXXII (Littré, VII, 542).

the first chapter of *Affections*[26] diseases are attributed to the action of the four opposites on bile and phlegm, and a not dissimilar view is expressed in the second chapter of *Diseases* I.[27] Not very different doctrines were held by Dexippus,[28] Philolaus,[29] and Petron.[30] It is quite likely that the author of *Ancient Medicine* had no single individual in mind, but was combating all thinkers who attached undue weight to the affect of the four traditional opposites on bodily health.

Erotian, who about the time of Nero wrote a glossary of rare or difficult Hippocratic words, is the only ancient authority to assign this work to Hippocrates himself; Galen does not refer to it in any way. Among the moderns, Littré and Gomperz defend the Hippocratic authorship, their strongest argument being based on the supposed resemblance of *Phaedrus* 270 c, d, to a part of chapter XX.[31] More recent criticism, however, holds that the *Phaedrus* passage insists on the need for the physician to know cosmology, but that *Ancient Medicine* discards cosmology and requires physiology.

The internal evidence is partly with, and partly against Littré. *Ancient Medicine* holds that health is restored when there has taken place coction of the disturbed humours, recognises the importance of critical days and insists on the necessity of careful observation and accurate reasoning. Sick diet too is chiefly barley-gruel of various degrees of consistency. On the other hand, the works that can with probability be assigned to Hippocrates, or at least to the Hippocratic School, show no such disparagement of heat as we find in *Ancient Medicine*, nor do they speak of an indefinite number of opposite "powers," which by their blending produce health, and by their disproportion disease. Finally, prognosis, on which a true Hippocratic laid such stress, is, if not passed over, at least only vaguely alluded to.[32] So it can hardly be that Hippocrates was the author. But if not he, who was it likely to be?

It is somewhat disconcerting to have to admit that, as far as can be seen, the author of so striking a work, the defender of such revolutionary doctrines, is an "unknown." Startling again, yet nevertheless a fact, is the silence of Galen. We are forced to admit that in the great age of

[26] Littré, VI, 208.
[27] Littré, VI, 142.
[28] *Anonymus*, XII.
[29] *Anonymus*, XVIII.
[30] *Anonymus*, XX. This last comes nearest to our author's opponents, as he derives diseases from a disproportion among the four opposites composing our bodies. The others look upon heat etc. as secondary.
[31] Galen holds that Plato in the *Phaedrus* is thinking of *Nature of Man*.
[32] In the second chapter, μάλιστα δέ μοι δοκεῖ κ. τ. λ.

Athens there were some, perhaps many thinkers, who, though of outstanding merit, yet failed to have their names, and those of their works, handed down to us by their contemporaries. Perhaps our author lived unnoticed just because the average level of intellectual attainment among his contemporaries was high. At any rate, *Ancient Medicine* does not stand alone as the great work of an unknown physician. The *Hippocratic Corpus* contains many such works. Every book in it is anonymous, nor is there one that we can, with perfect confidence, assign to a known author, although there are three or four about whose authorship we are fairly certain. There remain perhaps fifty important works the writers of which are unknown. Of these *Ancient Medicine* still remains one.

The Manuscripts

The two chief manuscripts are A and M.

A, Parisinus Graecus 2253, a parchment MS of the eleventh century. See Heiberg, p. v, Kühlewein, pp. viii-xii. There are several correcting hands.

M, Marcianus Venetus 269, a parchment MS of the eleventh century. See Heiberg, pp. v and vi, Kühlewein, pp. xviii-xxi.

A has been our chief authority since Littré, and was highly valued for both readings and spelling by the Teubner editors. Recently the readings of M have been more favourably judged.

TEXT

ΠΕΡΙ ΑΡΧΑΙΗΣ ΙΗΤΡΙΚΗΣ

I Ὁκόσοι μὲν ἐπεχείρησαν περὶ ἰητρικῆς λέγειν ἢ γράφειν, ὑπόθεσιν αὐτοὶ αὑτοῖς ὑποθέμενοι τῷ λόγῳ, θερμὸν ἢ ψυχρὸν ἢ ὑγρὸν ἢ ξηρὸν ἢ ἄλλο τι, ὃ ἄν θέλωσιν, ἐς βραχὺ ἄγοντες τὴν ἀρχὴν τῆς αἰτίης τοῖσιν ἀνθρώποισι νούσων τε καὶ θανάτου, καὶ πᾶσι τὴν αὐτήν, ἓν ἢ δύο ὑποθέμενοι, ἐν πολλοῖσι μὲν καινοῖσι οἷσι λέγουσι καταφανέες εἰσὶν ἁμαρτάνοντες, μάλιστα δὲ ἄξιον μέμψασθαι, ὅτι ἀμφὶ τέχνης ἐούσης, ᾗ χρέονταί τε πάντες ἐπὶ τοῖσι μεγίστοισι καὶ τιμῶσι μάλιστα τοὺς ἀγαθοὺς χειροτέχνας καὶ δημιουργούς. εἰσὶν δὲ δημιουργοὶ οἱ μὲν φαῦλοι, οἱ δὲ πολλὸν διαφέροντες· ὅπερ, εἰ μὴ ἦν ἰητρικὴ ὅλως μηδ' ἐν αὐτῇ ἔσκεπτο μηδ' εὕρητο μηδέν, οὐκ ἂν ἦν, ἀλλὰ πάντες ὁμοίως αὐτῆς ἄπειροί τε καὶ ἀνεπιστήμονες ἦσαν, τύχῃ δ' ἂν πάντα τὰ τῶν καμνόντων διοικέετο. νῦν δ' οὐχ οὕτως ἔχει, ἀλλ' ὥσπερ καὶ τῶν ἄλλων τεχνέων πασέων οἱ δημιουργοὶ πολλὸν ἀλλήλων διαφέρουσιν κατὰ χεῖρα καὶ κατὰ γνώμην, οὕτω δὲ καὶ ἐπὶ ἰητρικῆς. διὸ οὐκ ἠξίουν αὐτὴν ἔγωγε κενῆς ὑποθέσιος δεῖσθαι, ὥσπερ τὰ ἀφανέα τε καὶ ἀπορεόμενα, περὶ ὧν ἀνάγκη, ἤν τις ἐπιχειρῇ τι λέγειν, ὑποθέσει χρῆσθαι, οἷον περὶ τῶν μετεώρων ἢ τῶν ὑπὸ γῆν· ἃ εἴ τις λέγοι καὶ γινώσκοι ὡς ἔχει, οὔτ' ἂν αὐτῷ τῷ λέγοντι οὔτε τοῖς ἀκούουσι δῆλα ἂν εἴη, εἴτε ἀληθέα ἐστὶν εἴτε μή· οὐ γὰρ ἔστι, πρὸς ὅ τι χρὴ ἀνενέγκαντα εἰδέναι τὸ σαφές.

II Ἰητρικῇ δὲ πάλαι πάντα ὑπάρχει, καὶ ἀρχὴ καὶ ὁδὸς εὑρημένη, καθ' ἣν τὰ εὑρημένα πολλά τε καὶ καλῶς ἔχοντα εὕρηται ἐν πολλῷ χρόνῳ καὶ τὰ λοιπὰ εὑρεθήσεται, ἤν τις ἱκανός τε ὢν καὶ τὰ εὑρημένα εἰδὼς ἐκ τούτων ὁρμώμενος ζητέῃ. ὅστις δὲ ταῦτα ἀποβαλὼν καὶ ἀποδοκιμάσας πάντα ἑτέρῃ ὁδῷ καὶ ἑτέρῳ σχήματι ἐπιχειρεῖ ζητεῖν καί φησί τι ἐξευρηκέναι, ἐξαπατᾷ τε καὶ ἐξαπατᾶται· ἀδύνατον γάρ· δι' ἃς δὲ ἀνάγκας ἀδύνατον, ἐγὼ πειρήσομαι ἐπιδεῖξαι λέγων καὶ ἐπιδεικνύων τὴν τέχνην ὅτι ἔστιν. ἐκ δὲ τούτου καταφανὲς ἔσται ἀδύνατα ἐόντα ἄλλως πως τούτων εὑρίσκεσθαι. μάλιστα δέ μοι δοκέει περὶ ταύτης δεῖν λέγοντα τῆς τέχνης γνωστὰ λέγειν τοῖσι δημότῃσιν· οὐ γὰρ περὶ ἄλλων τινῶν οὔτε ζητεῖν οὔτε λέγειν προσήκει ἢ περὶ τῶν παθημάτων, ὧν αὐτοὶ οὗτοι νοσέουσί τε καὶ πονέουσι. αὐτοὺς μὲν οὖν τὰ σφέων αὐτῶν παθήματα καταμαθεῖν, ὡς γίνεται καὶ παύεται καὶ δι' οἵας προφάσιας αὔξεταί τε καὶ φθίνει, δημότας ἐόντας οὐ ῥηίδιον, ὑπ' ἄλλου δὲ εὑρημένα καὶ λεγόμενα εὐπετές· οὐδὲν γὰρ ἕτερον ἢ ἀναμιμνήσκεται ἕκαστος ἀκούων τῶν αὐτῷ συμβαινόντων.

2, 3. αὐτοὶ αὐτοῖς A: σφίσιν αὐτέοισιν M: αὐτοὶ αὐτοῖς Heiberg, Jones.
6. καὶ MSS: καινοῖσι coni. H. Schöne.
15. κενῆς M: καινῆς A.
17. ἀεὶ A: εἰ M: ἃ εἰ Littré, Gomperz.
26. ἐξηπάτηται AM: ἐξαπατᾷ τε coni. Diels.
27. ὅτι A: ὅ τι M: ἔστιν Kühlewein.
35. αὐτῷ A: ἑωυτῷ M: αὐτῷ Jones.

εἰ δέ τις τῆς τῶν ἰδιωτέων γνώμης ἀποτεύξεται καὶ μὴ διαθήσει τοὺς ἀκούοντας οὕτως, τοῦ ἐόντος ἀποτεύξεται. καὶ διὰ ταῦτα οὖν οὐδὲν δεῖ ὑποθέσιος.

III Τὴν γὰρ ἀρχὴν οὔτ' ἂν εὑρέθη ἡ τέχνη ἡ ἰητρικὴ οὔτ' ἂν ἐζητήθη· οὐδὲν γὰρ αὐτῆς ἔδει· εἰ τοῖσι κάμνουσι τῶν ἀνθρώπων τὰ αὐτὰ διαιτωμένοισί τε καὶ προσφερομένοισι, ἅπερ οἱ ὑγιαίνοντες ἐσθίουσί τε καὶ πίνουσι καὶ τἄλλα διαιτέονται, ξυνέφερεν, καὶ μὴ ἦν ἕτερα τούτων βελτίω· νῦν δὲ αὐτὴ ἡ ἀνάγκη ἰητρικὴν ἐποίησεν ζητηθῆναί τε καὶ εὑρεθῆναι ἀνθρώποισιν, ὅτι τοῖσι κάμνουσι ταὐτὰ προσφερομένοισι, ἅπερ οἱ ὑγιαίνοντες, οὐ συνέφερεν, ὡς οὐδὲ νῦν συμφέρει. ἔτι δὲ ἄνωθεν ἔγωγε ἀξιῶ οὐδ' ἂν τὴν τῶν ὑγιαινόντων δίαιτάν τε καὶ τροφήν, ἣ νῦν χρέονται, εὑρεθῆναι, εἰ ἐξήρκει τῷ ἀνθρώπῳ ταὐτὰ ἐσθίοντι καὶ πίνοντι βοΐ τε καὶ ἵππῳ καὶ πᾶσιν ἐκτὸς ἀνθρώπου, οἷον τὰ ἐκ τῆς γῆς φυόμενα, καρπούς τε καὶ ὕλην καὶ χόρτον· ἀπὸ τούτων γὰρ καὶ τρέφονται καὶ αὔξονται καὶ ἄπονοι διάγουσιν οὐδὲν προσδεόμενοι ἄλλης διαίτης. καί τοι τήν γε ἀρχὴν ἔγωγε δοκέω καὶ τὸν ἄνθρωπον τοιαύτῃ τροφῇ κεχρῆσθαι· τὰ δὲ νῦν διαιτήματα εὑρημένα καὶ τετεχνημένα ἐν πολλῷ χρόνῳ γεγενῆσθαί μοι δοκέει· ὡς γὰρ ἔπασχον πολλά τε καὶ δεινὰ ὑπὸ ἰσχυρῆς τε καὶ θηριώδεος διαίτης ὠμά τε καὶ ἄκρητα καὶ μεγάλας δυνάμιας ἔχοντα ἐσφερόμενοι, οἷά περ ἂν καὶ νῦν ὑπ' αὐτῶν πάσχοιεν πόνοισί τε ἰσχυροῖσι καὶ νούσοισι περιπίπτοντες καὶ διὰ τάχεος θανάτοισιν. ἧσσον μὲν οὖν ταῦτα τότε εἰκὸς ἦν πάσχειν διὰ τὴν συνήθειαν, ἰσχυρῶς δὲ καὶ τότε, καὶ τοὺς μὲν πλείστους τε καὶ ἀσθενεστέρην φύσιν ἔχοντας ἀπόλλυσθαι εἰκός, τοὺς δὲ τούτων ὑπερέχοντας πλείω χρόνον ἀντέχειν, ὥσπερ καὶ νῦν ἀπὸ τῶν ἰσχυρῶν βρωμάτων οἱ μὲν ῥηϊδίως ἀπαλλάσσονται, οἱ δὲ μετὰ πολλῶν πόνων τε καὶ κακῶν. διὰ δὴ ταύτην τὴν αἰτίην καὶ οὗτοί μοι δοκέουσι ζητῆσαι τροφὴν ἁρμόζουσαν τῇ φύσει καὶ εὑρεῖν ταύτην, ἣ νῦν χρώμεθα. ἐκ μὲν οὖν τῶν πυρῶν βρέξαντές σφας καὶ πτίσαντες καὶ καταλέσαντές τε καὶ διασήσαντες καὶ φορύξαντες καὶ ὀπτήσαντες ἀπετέλεσαν ἄρτον, ἐκ δὲ τῶν κριθέων μᾶζαν· ἄλλα τε πολλὰ περὶ ταῦτα πραγματευσάμενοι ἥψησάν τε καὶ ὤπτησαν καὶ ἔμιξαν, καὶ ἐκέρασαν τὰ ἰσχυρά τε καὶ ἄκρητα τοῖσιν ἀσθενεστέροις, πλάσσοντες πάντα πρὸς τὴν τοῦ ἀνθρώπου φύσιν τε καὶ δύναμιν, ἡγεύμενοι ὡς, ἢν μὲν ἰσχυρὰ ᾖ, οὐ δυνήσεται κρατέειν ἡ φύσις, ἢν ἐμφέρηται, ἀπὸ τούτων τε αὐτῶν πόνους τε καὶ νούσους καὶ θανάτους ἔσεσθαι, ὁπόσων δ' ἂν δύνηται ἐπικρατέειν, ἀπὸ τούτων τροφήν τε καὶ αὔξησιν καὶ ὑγιείην. τῷ δὲ εὑρήματι τούτῳ

2. ταῦτα οὖν M: ταῦτα οὖν ταῦτα. A.
18. ὡς γὰρ ἔπασχον: γὰρ *del.* Heiberg.
30. ταύτην MSS: ταῦτα Kühlewein.
33. ὡς ἢν ἃ μὲν A: ὅσα μὲν M: ὅσων μὲν ἦν Diels: ὡς, ἢν μὲν Heiberg: ἰσχυρότερα M: ᾗ ἢ *omisso* οὐ Littré.

καὶ ζητήματι τί ἄν τις ὄνομα δικαιότερον ἢ προσῆκον μᾶλλον θείη ἢ ἰητρικήν, ὅτι γε εὕρηται ἐπὶ τῇ τοῦ ἀνθρώπου ὑγιείῃ τε καὶ σωτηρίῃ καὶ τροφῇ, ἄλλαγμα ἐκείνης τῆς διαίτης, ἐξ ἧς οἱ πόνοι καὶ νοῦσοι καὶ θάνατοι ἐγίνοντο;

IV Εἰ δὲ μὴ τέχνη αὕτη νομίζεται εἶναι, οὐκ ἀπεικός· ἧς γὰρ μηδείς ἐστιν ἰδιώτης, ἀλλὰ πάντες ἐπιστήμονες διὰ τὴν χρῆσίν τε καὶ ἀνάγκην, οὐ προσήκει ταύτης οὐδένα τεχνίτην καλέεσθαι· ἐπεὶ τό γε εὕρημα μέγα τε καὶ πολλῆς σκέψιος τε καὶ τέχνης. ἔτι γοῦν καὶ νῦν οἱ τῶν γυμνασίων τε καὶ ἀσκησίων ἐπιμελόμενοι αἰεί τι προσεξευρίσκουσιν κατὰ τὴν αὐτὴν ὁδὸν ζητέοντες, ὅ τι ἐσθίων τε καὶ πίνων ἐπικρατήσει τε αὐτοῦ μάλιστα καὶ ἰσχυρότερος αὐτὸς ἑωυτοῦ ἔσται.

V Σκεψώμεθα δὲ καὶ τὴν ὁμολογουμένως ἰητρικὴν τὴν ἀμφὶ τοὺς κάμνοντας εὑρημένην, ἣ καὶ ὄνομα καὶ τεχνίτας ἔχει, ἦρά τι καὶ αὐτὴ τῶν αὐτῶν ἐθέλει, καὶ πόθεν ποτὲ ἤρκται. ἐμοὶ μὲν γάρ, ὅπερ ἐν ἀρχῇ εἶπον, οὐδ' ἂν ζητῆσαι ἰητρικὴν δοκέει οὐδείς, εἰ ταὐτὰ διαιτήματα τοῖσί τε κάμνουσιν καὶ τοῖσι ὑγιαίνουσιν ἥρμοζεν. ἔτι γοῦν καὶ νῦν, ὁκόσοι ἰητρικῇ μὴ χρέονται, οἵ τε βάρβαροι καὶ τῶν Ἑλλήνων ἔνιοι, τὸν αὐτὸν τρόπον, ὅνπερ οἱ ὑγιαίνοντες, διαιτέονται πρὸς ἡδονὴν καὶ οὔτ' ἂν ἀπόσχοιντο οὐδενὸς ὧν ἐπιθυμέουσιν, οὔθ' ὑποστείλαιντο ἄν. οἱ δὲ ζητήσαντες καὶ εὑρόντες ἰητρικὴν τὴν αὐτὴν ἐκείνοισι διάνοιαν ἔχοντες, περὶ ὧν μοι ὁ πρότερος λόγος εἴρηται, πρῶτον μέν, οἶμαι, ὑφεῖλον τοῦ πλήθεος τῶν σιτίων αὐτῶν τούτων, καὶ ἀντὶ πλειόνων ὀλίγιστα ἐποίησαν. ἐπεὶ δὲ αὐτοῖσι τοῦτο ἔστι μὲν ὅτε πρός τινας τῶν καμνόντων ἤρκεσε καὶ φανερὸν ἐγένετο ὠφελῆσαν, οὐ μέντοι πᾶσίν γε. ἀλλ' ἦσάν τινες οὕτως ἔχοντες, ὡς μηδ' ὀλίγων σιτίων δύνασθαι ἐπικρατέειν, ἀσθενεστέρου δὲ δή τινος οἱ τοιοίδε ἐδόκεον δεῖσθαι, εὗρον τὰ ῥυφήματα, μίξαντες ὀλίγα τῶν ἰσχυρῶν πολλῷ τῷ ὕδατι καὶ ἀφαιρεόμενοι τὸ ἰσχυρὸν τῇ κρήσει τε καὶ ἑψήσει. ὁκόσοι δὲ μηδὲ τῶν ῥυφημάτων ἐδύναντο ἐπικρατέειν, ἀφεῖλον καὶ ταῦτα καὶ ἀφίκοντο ἐς πόματα καὶ ταῦτα τῇσί τε κρήσεσι καὶ τῷ πλήθει διαφυλάσσοντες ὡς μετρίως ἔχοι, μήτε πλείω τῶν δεόντων μήτε ἀκρητέστερα προσφερόμενοι μηδὲ ἐνδεέστερα.

VI Εὖ δὲ χρὴ τοῦτο εἰδέναι, ὅτι τισὶ τὰ ῥυφήματα ἐν τῇ νούσοισιν οὐ συμφέρει, ἀλλ' ἄντικρυς, ὅταν ταῦτα προσαίρωνται, παροξύνονταί σφισιν οἵ τε πυρετοὶ καὶ τὰ ἀλγήματα, καὶ δῆλον τὸ προσενεχθὲν τῇ μὲν νούσῳ τροφή τε καὶ αὔξησις γενόμενον, τῷ δὲ σώματι φθίσις τε καὶ ἀρρωστίη. ὁκόσοι δὲ ἂν τῶν ἀνθρώπων ἐν ταύτῃ τῇ διαθέσει ἐόντες προσενέγκωνται ξηρὸν σιτίον, ἢ μᾶζαν ἢ ἄρτον, καὶ ἦν πάνυ σμικρόν, δεκαπλασίως ἂν

33. ἄντικρυς M: φανερῶς A: M *confirmat* Hesychius.

μᾶλλον καὶ ἐπιφανέστερον κακωθεῖεν ἢ ῥυφέοντες, δι' οὐδὲν ἄλλο ἢ διὰ τὴν ἰσχὺν τοῦ βρώματος πρὸς τὴν διάθεσιν. καὶ ὅτῳ ῥυφεῖν μὲν συμφέρει, ἐσθίειν δ' οὔ, εἰ πλείω φάγοι, πολὺ ἂν μᾶλλον κακωθείη ἢ εἰ ὀλίγα. καὶ εἰ ὀλίγα δέ, πονήσειεν ἄν. πάντα δὴ τὰ αἴτια τοῦ πόνου ἐς τὸ αὐτὸ ἀνάγεται, τὰ ἰσχυρότατα μάλιστά τε καὶ ἐπιφανέστατα λυμαίνεσθαι τὸν ἄνθρωπον καὶ τὸν ὑγιέα ἐόντα καὶ τὸν κάμνοντα.

VII Τί οὖν φαίνεται ἑτεροῖον διανοηθεὶς ὁ καλεύμενος ἰητρὸς καὶ ὁμολογουμένως χειροτέχνης, ὃς ἐξεῦρε τὴν ἀμφὶ τοὺς κάμνοντας δίαιτάν τε καὶ τροφήν, ἣ ἐκεῖνος ὁ ἀπ' ἀρχῆς τοῖσιν πᾶσιν ἀνθρώποισιν τροφήν, ἧ νῦν χρεόμεθα, ἐξ ἐκείνης τῆς ἀγρίης τε καὶ θηριώδεος διαίτης εὑρών τε καὶ παρασκευασάμενος; ἐμοὶ μὲν γὰρ φαίνεται ὁ αὐτὸς λόγος καὶ ἓν καὶ ὅμοιον τὸ εὕρημα· ὁ μέν, ὅσων μὴ ἐδύνατο ἡ φύσις ἡ ἀνθρωπίνη ὑγιαίνουσα ἐπικρατέειν ἐμπιπτόντων διὰ τὴν θηριότητά τε καὶ τὴν ἀκρησίην, ὁ δέ, ὅσων ἂν ἡ διάθεσις, ἐν οἵῃ ἂν ἑκάστοτε ἕκαστος τύχῃ διακείμενος, μὴ δύνηται ἐπικρατέειν, ταῦτα ἐζήτησεν ἀφελεῖν. τί δὴ τοῦτ' ἐκείνου διαφέρει ἀλλ' ἢ πλέον τό τε εἶδος, καὶ ὅτι ποικιλώτερον καὶ πλείονος πρηγματίης, ἀρχὴ δὲ ἐκείνη ἡ πρότερον γενομένη;

VIII Εἰ δέ τις σκέπτοιτο τὴν τῶν καμνόντων δίαιταν πρὸς τὴν τῶν ὑγιαινόντων, εὕροι ἂν οὐ βλαβερωτέρην ἥπερ τὴν τῶν ὑγιαινόντων πρὸς τὴν τῶν θηρίων τε καὶ τῶν ἄλλων ζώων· ἀνὴρ γὰρ κάμνων νοσήματι μήτε τῶν χαλεπῶν τε καὶ ἀπόρων μήτε αὖ τῶν παντάπασιν εὐηθέων, ἀλλ' ὅ τι αὐτῷ ἐξαμαρτάνοντι μέλλει ἐπίδηλον ἔσεσθαι, εἰ ἐθέλοι καταφαγεῖν ἄρτον καὶ κρέας ἢ ἄλλο τι, ὧν οἱ ὑγιαίνοντες ἐσθίοντες ὠφελέονται, μὴ πολλόν, ἀλλὰ πολλῷ ἔλασσον ἢ ὑγιαίνων ἂν ἐδύνατο, ἄλλος τε τῶν ὑγιαινόντων φύσιν ἔχων μήτε παντάπασιν ἀσθενέα μήτ' αὖ ἰσχυρὴν φαγών τι ὧν βοῦς ἢ ἵππος φαγὼν ἂν ὠφελοῖτό τε καὶ ἰσχύοι, ὀρόβους ἢ κριθὰς ἢ ἄλλο τι τῶν τοιούτων, μὴ πολύ, ἀλλὰ πολλῷ μεῖον ἢ δύναιτο, οὐκ ἂν ἧσσον ὁ ὑγιαίνων τοῦτο ποιήσας πονήσειέ τε καὶ κινδυνεύσειε ἐκείνου τοῦ νοσέοντος, ὃς τὸν ἄρτον ἢ τὴν μᾶζαν ἀκαίρως προσηνέγκατο. ταῦτα δὴ πάντα τεκμήρια, ὅτι αὕτη ἡ τέχνη πᾶσα ἡ ἰητρικὴ τῇ αὐτῇ ὁδῷ ζητεομένη εὑρίσκοιτο ἄν.

IX Καὶ εἰ μὲν ἦν ἁπλοῦν, ὥσπερ ὑφήγηται, ὅσα μὲν ἦν ἰσχυρότερα, ἔβλαπτεν, ὅσα δ' ἦν ἀσθενέστερα, ὠφέλει τε καὶ ἔτρεφεν καὶ τὸν κάμνοντα

4. ἢ ὀλίγα A: *om.* M: ἢ εἰ ὀλίγα Ermerins.
14. *Post* ὅσων *add.* ἂν Kühlewein: *om.* MSS.
16. ἀλλ' ἢ πλέον τό γε A: *τε pro γε* M: *πλέον del.* Reinhold.
18,19. *τίς ἡ pro τὴν, δίαιτα pro δίαιταν, οὐ om., ἥπερ τὴν* M: ἢ περὶ A.
19,20. *Sic* Heiberg. *Varias praestant lectiones* MSS, *sed sensus patet.*
21. ἀπόρων A^2: ἀφόρων A M. ὅ τι *cod.* Foesii: ἢ A: οὔτε M.

καὶ τὸν ὑγιαίνοντα, εὐπετὲς ἂν ἦν τὸ πρῆγμα· πολλὸν γὰρ τοῦ ἀσφαλέος ἂν ἔδει περιλαμβάνοντας ἄγειν ἐπὶ τὸ ἀσθενέστερον· νῦν δὲ οὐκ ἔλασσον ἁμάρτημα οὐδὲ ἧσσον λυμαίνεται τὸν ἄνθρωπον, ἢν ἐλάσσονα καὶ ἐνδεέστερα τῶν ἱκανῶν προσφέρηται· τὸ γὰρ τοῦ λιμοῦ μένος δύναται ἰσχυρῶς ἐν τῇ φύσει τοῦ ἀνθρώπου καὶ γυιῶσαι καὶ ἀσθενέα ποιῆσαι καὶ ἀποκτεῖναι. πολλὰ δὲ καὶ ἄλλα κακὰ ἑτεροῖα μὲν τῶν ἀπὸ πληρώσιος, οὐχ ἧσσον δὲ δεινά, καὶ ἀπὸ κενώσιος· διότι πολλὸν ποικιλώτερά τε καὶ διὰ πλείονος ἀκριβείης ἐστί· δεῖ γὰρ μέτρου τινὸς στοχάσασθαι. μέτρον δὲ οὔτε ἀριθμὸν οὔτε σταθμὸν ἄλλον, πρὸς ὃ ἀναφέρων εἴσῃ τὸ ἀκριβές, οὐκ ἂν εὕροις ἀλλ' ἢ τοῦ σώματος τὴν αἴσθησιν· δι' ὃ ἔργον οὕτω καταμαθεῖν ἀκριβῶς, ὥστε σμικρὰ ἁμαρτάνειν ἔνθα ἢ ἔνθα. κἂν ἐγὼ τοῦτον τὸν ἰητρὸν ἰσχυρῶς ἐπαινέοιμι τὸν σμικρὰ ἁμαρτάνοντα, τὸ δὲ ἀτρεκὲς ὀλιγάκις ἔστι κατιδεῖν. ἐπεὶ οἱ πολλοί γε τῶν ἰητρῶν τὰ αὐτά μοι δοκέουσιν τοῖσι κακοῖσι κυβερνήτῃσι πάσχειν. καὶ γὰρ ἐκεῖνοι, ὅταν ἐν γαλήνῃ κυβερνῶντες ἁμαρτάνωσιν, οὐ καταφανέες εἰσίν, ὅταν δὲ αὐτοὺς κατάσχῃ χειμών τε μέγας καὶ ἄνεμος ἐξώστης, φανερῶς πᾶσιν ἤδη ἀνθρώποισι δι' ἀγνωσίην καὶ ἁμαρτίην δῆλοί εἰσιν ἀπολέσαντες τὴν ναῦν· οὕτω δὲ καὶ οἱ κακοί τε καὶ οἱ πλεῖστοι ἰητροί, ὅταν μὲν θεραπεύωσιν ἀνθρώπους μηδὲν δεινὸν ἔχοντας, ἐς οὓς ἄν τις τὰ μέγιστα ἐξαμαρτάνων οὐδὲν δεινὸν ἐργάσαιτο· πολλὰ δὲ τοιαῦτα νοσήματα καὶ πολλόν τι πλείω τῶν δεινῶν ἀνθρώποισι συμβαίνει· ἐν μὲν τοῖσι τοιούτοισι ἁμαρτάνοντες οὐ καταφανέες εἰσὶν τοῖσιν ἰδιώτῃσιν, ὁκόταν δ' ἐντύχωσιν μεγάλῳ τε καὶ ἰσχυρῷ καὶ ἐπισφαλεῖ νοσήματι, τότε σφέων τά τε ἁμαρτήματα καὶ ἡ ἀτεχνίη πᾶσι καταφανής· οὐ γὰρ ἐς μακρὸν αὐτῶν ἑκατέρου αἱ τιμωρίαι, ἀλλὰ διὰ τάχεος πάρεισιν.

X Ὅτι δ' οὐδὲν ἐλάσσους ἀπὸ κενώσιος ἀκαίρου κακοπάθειαι γίνονται τῷ ἀνθρώπῳ ἢ ἀπὸ πληρώσιος, καταμανθάνειν καλῶς ἔχει ἐπαναφέροντας ἐπὶ τοὺς ὑγιαίνοντας. ἔστι γὰρ οἷσιν αὐτῶν συμφέρει μονοσιτέειν, καὶ τοῦτο διὰ τὸ συμφέρον οὕτως αὐτοὶ συνετάξαντο, ἄλλοισι δὲ ἀριστῆν διὰ τὴν αὐτὴν ἀνάγκην· οὕτω γὰρ αὐτοῖσι συμφέρει. καὶ μὴν τοῦτ' εἰσὶν οἳ δι' ἡδονὴν ἢ δι' ἄλλην τινὰ συγκυρίην ἐπετήδευσαν ὁπότερον αὐτῶν· τοῖσι μὲν γὰρ πλείστοισι τῶν ἀνθρώπων οὐδὲν διαφέρει, ὁπότερον ἂν ἐπιτηδεύσωσιν, εἴτε μονοσιτέειν εἴτε ἀριστῆν, τούτῳ τῷ ἔθει χρῆσθαι. εἰσὶ δέ τινες, οἳ οὐκ ἂν δύναιντο ἔξω τοῦ συμφέροντος ποιέοντες ῥηϊδίως ἀπαλλάσσειν, ἀλλὰ συμβαίνει αὐτῶν ἑκατέροισιν παρ' ἡμέρην μίην καὶ

10. αἴσθησιν MSS: διάθεσιν *coni.* K. Deichgräber.
18. οἱ *ante* πλεῖστοι *del.* Heiberg.
30. μὴ τούτοισι(ν) MSS: μὴν τοῦτ' εἰσίν Reinhold.

ταύτην οὐχ ὅλην μεταβάλλουσιν ὑπερφυὴς κακοπαθείη. οἱ μὲν γάρ, ἢν ἀριστήσωσιν μὴ συμφέροντος αὐτοῖσιν, εὐθέως βαρέες καὶ νωθροὶ καὶ τὸ σῶμα καὶ τὴν γνώμην χάσμης τε καὶ νυσταγμοῦ καὶ δίψης πλήρεις. ἢν δὲ καὶ ἐπιδειπνήσωσι, καὶ φῦσα καὶ στρόφος, καὶ ἡ κοιλίη καταρρήγνυται. καὶ πολλοῖσιν ἀρχὴ νούσου αὕτη μεγάλης ἐγένετο, καὶ ἢν τὰ σιτία, ἃ μεμαθήκεσαν ἅπαξ ἀναλίσκειν, ταῦτα δὶς προσενέγκωνται καὶ μηδὲν πλείω. τοῦτο δέ, ἢν ἀριστῆν μεμαθηκώς τις, καὶ οὕτως αὐτῷ συμφέρον ἦν, μὴ ἀριστήσῃ, ὅταν τάχιστα παρέλθῃ ἡ ὥρη, εὐθὺς ἀδυναμίη δεινή, τρόμος, ἀψυχίη. ἐπὶ τούτοισιν ὀφθαλμοὶ κοῖλοι, οὖρον χλωρότερον καὶ θερμότερον, στόμα πικρόν, καὶ τὰ σπλάγχνα οἱ δοκέει κρέμασθαι, σκοτοδινίη, δυσθυμίη, δυσεργείη. ταῦτα δὲ πάντα καί, ὅταν δειπνεῖν ἐπιχειρήσῃ· ἀηδέστερος μὲν ὁ σῖτος, ἀναλίσκειν δὲ οὐ δύναται, ὅσα ἀριστιζόμενος πρότερον ἐδείπνει, ταῦτα δὲ αὐτὰ μετὰ στρόφου καὶ ψόφου καταβαίνοντα συγκαίει τὴν κοιλίην, δυσκοιτέουσί τε καὶ ἐννυπνιάζουσι τεταραγμένα τε καὶ θορυβώδεα, πολλοῖσι δὲ καὶ τούτων αὕτη ἀρχὴ νούσου ἐγένετο.

XI Σκέψασθαι δὲ χρὴ διὰ τίνα αἰτίαν αὐτοῖσιν ταῦτα συνέβη. τῷ μὲν οἶμαι μεμαθηκότι μονοσιτέειν, ὅτι οὐκ ἀνέμεινεν τὸν χρόνον τὸν ἱκανόν, μέχρι αὐτοῦ ἡ κοιλίη τῶν τῇ προτεραίῃ προσενηνεγμένων σιτίων ἀπολαύσῃ τελέως καὶ ἐπικρατήσῃ καὶ λαπαχθῇ τε καὶ ἡσυχάσῃ, ἀλλ᾽ ἐπὶ ζέουσάν τε καὶ ἐζυμωμένην καινὰ ἐπεισηνέγκατο· αἱ δὲ τοιαῦται κοιλίαι πολλῷ τε βραδύτερον πέσσουσι καὶ πλείονος δέονται ἀναπαύσιός τε καὶ ἡσυχίης. ὁ δὲ μεμαθηκὼς ἀριστίζεσθαι, διότι, ἐπειδὴ τάχιστα ἐδεήθη τὸ σῶμα τροφῆς καὶ τὰ πρότερα κατανάλωτο καὶ οὐκ εἶχεν οὐδεμίαν ἀπόλαυσιν, οὐκ εὐθέως αὐτῷ προσεγένετο καινὴ τροφή, φθίνει δὴ καὶ συντήκεται ὑπὸ λιμοῦ. πάντα γάρ, ἃ λέγω πάσχειν τὸν τοιοῦτον ἄνθρωπον, λιμῷ ἀνατίθημι. φημὶ δὲ καὶ τοὺς ἄλλους ἀνθρώπους ἅπαντας, οἵτινες ἂν ὑγιαίνοντες ἄσιτοι δύο ἡμέρας ἢ τρεῖς γένωνται, ταὐτὰ πείσεσθαι, οἷάπερ ἐπὶ τῶν ἀναρίστων γενομένων εἴρηκα.

XII Τὰς δὲ τοιαύτας φύσιας ἔγωγέ φημι τὰς ταχέως τε καὶ ἰσχυρῶς τῶν ἁμαρτημάτων ἀπολανούσας ἀσθενεστέρας εἶναι τῶν ἑτέρων. ἐγγύτατα δὲ τοῦ ἀσθενέοντός ἐστιν ὁ ἀσθενής, ἔτι δὲ ἀσθενέστερος ὁ ἀσθενέων, καὶ μᾶλλον αὐτῷ προσήκει, ὅ τι ἂν τοῦ καιροῦ ἀποτυγχάνῃ, πονέειν. χαλεπὸν δὲ τοιαύτης ἀκριβείης ἐούσης περὶ τὴν τέχνην τυγχάνειν αἰεὶ τοῦ ἀτρεκεστάτου. πολλὰ δὲ εἴδεα κατ᾽ ἰητρικὴν ἐς τοσαύτην ἀκριβείην ἥκει, περὶ ὧν εἰρήσεται· οὔ φημι δὲ δεῖν διὰ τοῦτο τὴν τέχνην ὡς οὐκ

34. δὲ A: δὴ M: δὲ μὴ Erotian., Littré.

ἐοῦσαν οὐδὲ καλῶς ζητεομένην τὴν ἀρχαίην ἀποβαλέσθαι, εἰ μὴ ἔχει περὶ πάντα ἀκριβείην, ἀλλὰ πολὺ μᾶλλον διὰ τὸ ἐγγὺς οἶμαι τοῦ ἀτρεκεστάτου δύνασθαι ἥκειν λογισμῷ ἐκ πολλῆς ἀγνωσίης θαυμάζειν τὰ ἐξευρημένα, ὡς καλῶς καὶ ὀρθῶς ἐξεύρηται καὶ οὐκ ἀπὸ τύχης.

XIII Ἐπὶ δὲ τῶν τὸν καινὸν τρόπον τὴν τέχνην ζητεύντων ἐξ ὑποθέσιος τὸν λόγον ἐπανελθεῖν βούλομαι. εἰ γάρ τί ἐστιν θερμὸν ἢ ψυχρὸν ἢ ξηρὸν ἢ ὑγρὸν τὸ λυμαινόμενον τὸν ἄνθρωπον, καὶ δεῖ τὸν ὀρθῶς ἰητρεύοντα βοηθεῖν τῷ μὲν θερμῷ ἐπὶ τὸ ψυχρόν, τῷ δὲ ψυχρῷ ἐπὶ τὸ θερμόν, τῷ δὲ ξηρῷ ἐπὶ τὸ ὑγρόν, τῷ δὲ ὑγρῷ ἐπὶ τὸ ξηρὸν. ἔστω μοι ἀνθρωπος μὴ τῶν ἰσχυρῶν φύσει, ἀλλὰ τῶν ἀσθενεστέρων· οὗτος δὲ πυροὺς ἐσθιέτω, οὓς ἂν ἀπὸ τῆς ἄλω ἀνέλῃ ὠμοὺς καὶ ἀργούς, καὶ κρέα ὠμὰ καὶ πινέτω ὕδωρ. ταύτῃ χρεόμενος τῇ διαίτῃ εὖ οἶδ' ὅτι πείσεται πολλὰ καὶ δεινά· καὶ γὰρ πόνους πονήσει, καὶ τὸ σῶμα ἀσθενὲς ἔσται, καὶ ἡ κοιλίη φθαρήσεται, καὶ ζῆν πολὺν χρόνον οὐ δυνήσεται. τί δὴ χρὴ βοήθημα παρεσκευάσθαι ὧδ' ἔχοντι; θερμὸν ἢ ψυχρὸν ἢ ξηρὸν ἢ ὑγρόν; δῆλον γάρ, ὅτι τούτων τι· εἰ γὰρ τὸ λυμαινόμενόν ἐστιν τούτων τὸ ἕτερον, τῷ ὑπεναντίῳ προσήκει λῦσαι, ὡς ὁ ἐκείνων λόγος ἔχει. τὸ μὲν γὰρ βεβαιότατόν τε καὶ προφανέστατον φάρμακον ἀφελόντα τὰ διαιτήματα, οἷσιν ἐχρῆτο, ἀντὶ μὲν τῶν πυρῶν ἄρτον διδόναι, ἀντὶ δὲ τῶν ὠμῶν κρεῶν ἑφθά, πιεῖν τε ἐπὶ τούτοισιν οἶνον· ταῦτα μεταβαλόντα οὐχ οἷόν τε μὴ οὐχ ὑγιέα γενέσθαι, ἤν γε μὴ παντάπασιν ᾖ διεφθαρμένος ὑπὸ χρόνου τε καὶ τῆς διαίτης. τί δὴ φήσομεν; πότερον αὐτῷ ἀπὸ ψυχροῦ κακοπαθέοντι θερμὰ ταῦτα προσενέγκαντες ὠφέλησαν ἢ τἀναντία; οἶμαι γὰρ ἔγωγε πολλὴν ἀπορίην τῷ ἐρωτηθέντι παρασχεῖν. ὁ γὰρ τὸν ἄρτον παρασκενάζων τῶν πυρῶν τὸ θερμὸν ἢ τὸ ψυχρὸν ἢ τὸ ξηρὸν ἢ τὸ ὑγρὸν ἀφείλετο; ὃ γὰρ καὶ πυρὶ καὶ ὕδατι δέδοται καὶ ἄλλοισιν πολλοῖσιν εἴργασται, ὧν ἕκαστον ἰδίην δύναμιν καὶ φύσιν ἔχει, τὰ μὲν τῶν ὑπαρχόντων ἀποβέβληκεν, ἄλλοισι δὲ κέκρηταί τε καὶ μέμικται.

XIV Οἶδα μὲν γὰρ καὶ τάδε δήπου, ὅτι διαφέρει ἐς τὸ σῶμα τοῦ ἀνθρώπου καθαρὸς ἄρτος ἢ συγκομιστὸς ἢ ἀπτίστων πυρῶν ἢ ἐπτισμένων ἢ πολλῷ ὕδατι πεφυρημένος ἢ ὀλίγῳ ἢ ἰσχυρῶς πεφυρημένος ἢ ἀφύρητος ἢ ἔξοπτος ἢ ἔνωμος, ἄλλα τε πρὸς τούτοισι μυρία. ὡς δ' αὕτως καὶ περὶ μάζης. καὶ αἱ δυνάμιες δὲ μεγάλαι τε ἑκάστου καὶ οὐδὲν ἡ ἑτέρη τῇ ἑτέρῃ ἐοικυῖα. ὅστις δὲ ταῦτα οὐκ ἐπέσκεπται ἢ σκεπτόμενος οὐκ οἶδε, πῶς ἄν τι οὗτος δύναιτο τῶν κατὰ τὸν ἄνθρωπον παθημάτων εἰδέναι; ὑπὸ γὰρ ἑνὸς ἑκάστου

3. οὐ δύνασθαι A: ὁμοῦ δύνασθαι M: δύνασθαι Kühlewein.
5, 6. τὸν λόγον Kühlewein: λόγον M: λόγων A *et* Heiberg.
21. *Post* ὑγιέα *fortasse* ἂν *est supplendum.*
24. τῷ *ante* ἐρωτηθέντι *om.* A M.

τούτων πάσχει τε καὶ ἑτεροιοῦται ὁ ἄνθρωπος ἢ τοῖον ἢ τοῖον, καὶ διὰ τούτων πᾶς ὁ βίος καὶ ὑγιαίνοντι καὶ ἐκ νούσου ἀνατρεφομένῳ καὶ κάμνοντι. οὐκ ἂν οὖν ἕτερα τούτων χρησιμώτερα οὐδὲ ἀναγκαιότερα εἴη εἰδέναι δήπου. ὡς δὲ καλῶς καὶ λογισμῷ προσήκοντι ζητήσαντες πρὸς τὴν τοῦ ἀνθρώπου φύσιν εὗρον αὐτὰ οἱ πρῶτοι εὑρόντες καὶ ᾠήθησαν ἀξίην τὴν τέχνην θεῷ προσθεῖναι, ὥσπερ καὶ νομίζεται· οὐ γὰρ τὸ ξηρὸν οὐδὲ τὸ ὑγρὸν οὐδὲ τὸ θερμὸν οὐδὲ τὸ ψυχρὸν οὐδὲ ἄλλο τούτων ἡγησάμενοι οὐδὲν οὔτε λυμαίνεσθαι οὔτε προσδεῖσθαι οὐδενὸς τούτων τὸν ἄνθρωπον, ἀλλὰ τὸ ἰσχυρὸν ἑκάστου καὶ τὸ κρέσσον τῆς φύσιος τῆς ἀνθρωπείης, οὗ μὴ ἠδύνατο κρατέειν, τοῦτο βλάπτειν ἡγήσαντο καὶ τοῦτο ἐζήτησαν ἀφελέειν. ἰσχυρότατον δ' ἐστὶ τοῦ μὲν γλυκέος τὸ γλυκύτατον, τοῦ δὲ πικροῦ τὸ πικρότατον, τοῦ δὲ ὀξέος τὸ ὀξύτατον, ἑκάστου δὲ πάντων τῶν ἐνεόντων ἡ ἀκμή. ταῦτα γὰρ ἑώρων καὶ ἐν τῷ ἀνθρώπῳ ἐνεόντα καὶ λυμαινόμενα τὸν ἄνθρωπον. ἔνι γὰρ ἐν ἀνθρώπῳ καὶ ἁλμυρὸν καὶ πικρὸν καὶ γλυκὺ καὶ ὀξὺ καὶ στρυφνὸν καὶ πλαδαρὸν καὶ ἄλλα μυρία παντοίας δυνάμιας ἔχοντα πλῆθός τε καὶ ἰσχύν. ταῦτα μὲν μεμιγμένα καὶ κεκρημένα ἀλλήλοισιν οὔτε φανερά ἐστιν οὔτε λυπέει τὸν ἄνθρωπον, ὅταν δέ τι τούτων ἀποκριθῇ καὶ αὐτὸ ἐφ' ἑωυτοῦ γένηται, τότε καὶ φανερόν ἐστι καὶ λυπέει τὸν ἄνθρωπον· τοῦτο δέ, τῶν βρωμάτων ὅσα ἡμῖν ἀνεπιτήδειά ἐστιν καὶ λυμαίνεται τὸν ἄνθρωπον ἐμπεσόντα, τούτων ἓν ἕκαστον ἢ πικρόν ἐστιν καὶ ἄκρητον ἢ ἁλμυρὸν ἢ ὀξὺ ἢ ἄλλο τι ἄκρητόν τε καὶ ἰσχυρόν, καὶ διὰ τοῦτο ταρασσόμεθα ὑπ' αὐτῶν, ὥσπερ καὶ ὑπὸ τῶν ἐν τῷ σώματι ἀποκρινομένων. πάντα δέ, ὅσα ἄνθρωπος ἐσθίει ἢ πίνει, τὰ τοιαῦτα βρώματα ἥκιστα τοιούτου χυμοῦ ἀκρήτου τε καὶ διαφέροντος δῆλά ἐστιν μετέχοντα, οἷον ἄρτος τε καὶ μᾶζα καὶ τὰ ἐπόμενα τούτοισιν, οἷσιν εἴθισται ὁ ἄνθρωπος πλείστοισί τε καὶ αἰεὶ χρῆσθαι, ἔξω τῶν πρὸς ἡδονήν τε καὶ κόρον ἠρτυμένων τε καὶ ἐσκευασμένων. καὶ ἀπὸ τούτων πλείστων ἐσιόντων ἐς τὸν ἄνθρωπον τάραχος καὶ ἀπόκρισις τῶν ἀμφὶ τὸ σῶμα δυναμίων ἥκιστα γίνεται, ἰσχὺς δὲ καὶ αὔξησις καὶ τροφὴ μάλιστα δι' οὐδὲν ἕτερον γίνεται, ἢ ὅτι εὖ τε κέκρηται καὶ οὐδὲν ἔχει οὔτε ἄκρητον οὔτε ἰσχυρόν, ἀλλ' ὅλον ἔν τε γέγονε καὶ ἁπλοῦν.

XV Ἀπορέω δ' ἔγωγε, οἱ τὸν λόγον ἐκεῖνον λέγοντες καὶ ἄγοντες ἐκ ταύτης τῆς ὁδοῦ ἐπὶ ὑπόθεσιν τὴν τέχνην τίνα ποτὲ τρόπον θεραπεύουσι τοὺς ἀνθρώπους, ὥσπερ ὑποτίθενται· οὐ γάρ ἐστιν αὐτοῖσιν, οἶμαι, ἐξευρημένον αὐτό τι ἐφ' ἑωυτοῦ θερμὸν ἢ ψυχρὸν ἢ ξηρὸν ἢ ὑγρὸν μηδενὶ ἄλλῳ εἶδει κοινωνέον. ἀλλ' οἶομαι ἔγωγε ταὐτὰ βρώματα καὶ πόματα αὐτοῖσιν

4. ὡς δὲ MSS: *fortasse* ὥστε.
20. ἐκπεσόντα aut ἐσπεσόντα MSS: ἐμπεσόντα Littré.
21. καὶ ἄκρητον *del.* Reinhold.
31. *Post* ἁπλοῦν *add.* καὶ ἰσχυρόν MSS: *del.* Kühlewein *vel coni.* ἰσόμοιρον (*Hermes* 22, p. 193). *Servat* Heiberg. Littré *add.* μή Ermerins οὐ *ante* ἰσχυρόν.

ὑπάρχειν, οἷσι πάντες χρεόμεθα, προστιθέασι δὲ τῷ μὲν εἶναι θερμῷ, τῷ δὲ ψυχρῷ, τῷ δὲ ξηρῷ, τῷ δὲ ὑγρῷ ἐπεὶ ἐκεῖνό γε ἄπορον προστάξαι τῷ κάμνοντι θερμόν τι προσενέγκασθαι· εὐθὺς γὰρ ἐρωτήσει· τί; ὥστε ληρεῖν ἀνάγκη ἢ ἐς τούτων τι τῶν γινωσκομένων καταφεύγειν. εἰ δὲ δὴ τυγχάνει τι θερμὸν ἐὸν στρυφνόν, ἄλλο δὲ θερμὸν ἐὸν πλαδαρόν, ἄλλο δὲ θερμὸν ἄραδον ἔχον· ἔστι γὰρ καὶ ἄλλα πολλὰ θερμὰ καὶ ἄλλας δυνάμιας ἔχοντα ἐωυτῇσιν ὑπεναντίας· ἢ διοίσει τι αὐτῶν προσενεγκεῖν τὸ θερμὸν καὶ στρυφνὸν ἢ τὸ θερμὸν καὶ πλαδαρὸν ἢ ἅμα τὸ ψυχρὸν καὶ στρυφνόν· ἔστι γὰρ καὶ τοιοῦτο· ἢ τὸ ψυχρόν τε καὶ πλαδαρόν. ὥσπερ γὰρ ἐγὼ οἶδα, πᾶν τοὐναντίον ἀφ' ἑκατέρου αὐτῶν ἀποβαίνει, οὐ μόνον ἐν ἀνθρώπῳ, ἀλλὰ καὶ ἐν σκύτει καὶ ἐν ξύλῳ καὶ ἐν ἄλλοισι πολλοῖσιν, ἃ ἐστιν ἀνθρώπου ἀναισθητότερα· οὐ γὰρ τὸ θερμόν ἐστιν τὸ τὴν μεγάλην δύναμιν ἔχον, ἀλλὰ τὸ στρυφνὸν καὶ τὸ πλαδαρὸν καὶ τἆλλα, ὅσα μοι εἴρηται, καὶ ἐν τῷ ἀνθρώπῳ καὶ ἔξω τοῦ ἀνθρώπου καὶ ἐσθιόμενα καὶ πινόμενα καὶ ἔξωθεν ἐπιχριόμενά τε καὶ προσπλασσόμενα.

XVI Ψυχρότητα δ' ἐγὼ καὶ θερμότητα πασέων ἥκιστα τῶν δυναμίων νομίζω δυναστεύειν ἐν τῷ σώματι διὰ τάσδε τὰς αἰτίας· ὃν μὲν ἂν δήπου χρόνον μεμειγμένα αὐτὰ ἑωυτοῖσιν ἅμα τὸ θερμόν τε καὶ ψυχρὸν ἐνέῃ, οὐ λυπέει· κρῆσις γὰρ καὶ μετριότης τῷ μὲν θερμῷ γίνεται ἀπὸ τοῦ ψυχροῦ, τῷ δὲ ψυχρῷ ἀπὸ τοῦ θερμοῦ [καὶ τἆλλα κατὰ λόγον]· ὅταν δ' ἀποκριθῇ χωρὶς ἑκάτερον, τότε λυπέει. ἐν δὲ δὴ τούτῳ τῷ καιρῷ, ὅταν τὸ ψυχρὸν ἐπιγένηται καί τι λυπήσῃ τὸν ἄνθρωπον, διὰ τάχεος πρῶτον δι' αὐτὸ τοῦτο πάρεστιν τὸ θερμὸν αὐτόθεν ἐκ τοῦ ἀνθρώπου οὐδεμιῆς βοηθείης οὐδὲ παρασκευῆς δεόμενον, καὶ ταῦτα καὶ ἐν ὑγιαίνουσι τοῖσιν ἀνθρώποισιν ἀπεργάζεται καὶ ἐν κάμνουσιν. τοῦτο μέν, εἴ τις θέλει ὑγιαίνων χειμῶνος διαψῦξαι τὸ σῶμα ἢ λουσάμενος ψυχρῷ ἢ ἄλλῳ τῳ τρόπῳ, ὅσῳ ἂν ἐπὶ πλεῖον αὐτὸ ποιήσῃ, καὶ ἢν γε μὴ παντάπασιν παγῇ τὸ σῶμα, ὅταν εἵματα λάβῃ καὶ ἔλθῃ ἐς τὴν σκέπην, ἔτι μᾶλλον καὶ ἐπὶ πλεῖον θερμαίνεται τὸ σῶμα· τοῦτο δέ, εἰ ἐθέλοι ἐκθερμανθῆναι ἰσχυρῶς ἢ λουτρῷ θερμῷ ἢ πυρὶ πολλῷ, ἐκ δὲ τούτου τὸ αὐτὸ εἶμα ἔχων ἐν τῷ αὐτῷ χωρίῳ τὴν διατριβὴν ποιέεσθαι, ὥσπερ διεψυγμένος, πολὺ φανεῖται καὶ ψυχρότερος καὶ ἄλλως φρικαλεώτερος· ἢ εἰ ῥιπιζόμενός τις ὑπὸ πνίγεος καὶ παρασκευαζόμενος αὐτὸς ἑωυτῷ ψῦχος ἐκ τοιούτου ἂν τρόπου διαπαύσαιτο τοῦτο ποιέων, δεκαπλάσιον ἔσται τὸ καῦμα καὶ πνῖγος ἢ τῷ μηδὲν τοιοῦτο ποιέοντι. τόδε δὴ καὶ πολὺ μέζον· ὅσοι ἂν διὰ χιόνος ἢ ἄλλου ψύχεος βαδίσαντες ῥιγώσωσι διαφερόντως πόδας ἢ χεῖρας ἢ κεφαλήν, οἷα πάσχουσιν ἐς τὴν νύκτα, ὅταν περισταλέωσί τε καὶ ἐν ἀλέῃ γένωνται, ὑπὸ καύματος καὶ κνησμοῦ, καὶ ἔστιν οἷσι φλύκταιναι ἀνίστανται

7. ἢ διοίσει τι M: εἰ δεοίσει τί A: εἰ δεήσει τι *multi* MSS: δεήσει δέ τι Littré: ἢ μὴ διοίσει τι; Gomperz.
20. καὶ τἆλλα κατὰ λόγον *om.* M, *recte, ut videtur.*

ὥσπερ τοῖς ἀπὸ πυρὸς κατακεκαυμένοισι. καὶ οὐ πρότερον τοῦτο πάσχουσιν, πρὶν ἢ θερμανθῶσιν· οὕτως ἑτοίμως ἑκάτερον αὐτῶν ἐπὶ θάτερον παραγίνεται. μυρία δ' ἂν καὶ ἄλλα ἔχοιμι εἰπεῖν. τὰ δὲ κατὰ τοὺς νοσέοντας, οὐχὶ ὅσοις ἂν ῥῖγος γένηται, τούτοισιν ὀξύτατος ὁ πυρετὸς ἐκλάμπει; καὶ οὐχὶ ὅπως ἰσχυκώς, ἀλλὰ καὶ παυόμενος δι' ὀλίγου, καὶ ἄλλως τὰ πολλὰ ἀσινὴς καὶ ὅσον ἂν χρόνον παρῇ διάθερμος; καὶ διεξιὼν διὰ παντὸς τελευτᾷ ἐς τοὺς πόδας μάλιστα, οὗπερ τὸ ῥῖγος καὶ ἡ ψῦξις νεηνικωτάτη καὶ ἐπὶ πλεῖον ἐνεχρόνισεν· πάλιν τε ὅταν ἱδρώσῃ τε, καὶ ἀπαλλαγῇ ὁ πυρετός, πολὺ μᾶλλον διέψυξεν, ἢ εἰ μὴ ἔλαβε τὴν ἀρχήν. ᾧ οὖν διὰ τάχεος οὕτω παραγίνεται τὸ ἐναντιώτατόν τε καὶ ἀφαιρεόμενον τὴν δύναμιν ἀπὸ ταὐτομάτου, τί ἂν ἀπὸ τούτου μέγα ἢ δεινὸν γένοιτο; ἢ τί δεῖ πολλῆς ἐπὶ τοῦτο βοηθείης;

XVII Εἴποι ἄν τις· ἀλλ' οἱ πυρεταίνοντες τοῖσι καύσοισί τε καὶ περιπνευμονίῃσι καὶ ἄλλοισιν ἰσχυροῖσι νοσήμασιν οὐ ταχέως ἐκ τῆς θέρμης ἀπαλλάσσονται, οὐδὲ πάρεστιν ἐνταῦθα ἐπὶ τὸ θερμὸν τὸ ψυχρόν. ἐγὼ δέ μοι τοῦτο μέγιστον τεκμήριον ἡγεῦμαι εἶναι, ὅτι οὐ διὰ τὸ θερμὸν ἁπλῶς πυρεταίνουσιν οἱ ἄνθρωποι, οὐδὲ τοῦτο εἷν τὸ αἴτιον τῆς κακώσιος μοῦνον, ἀλλ' ἔστι καὶ πικρὸν καὶ θερμὸν τὸ αὐτὸ καὶ ὀξὺ καὶ θερμὸν καὶ ἁλμυρὸν καὶ θερμὸν καὶ ἄλλα μυρία, καὶ πάλιν γε ψυχρὸν μετὰ δυναμίων ἑτέρων. τὰ μὲν οὖν λυμαινόμενα ταῦτ' ἐστί, συμπάρεστι δὲ καὶ τὸ θερμὸν ῥώμης μὲν ἔχον ὅσον τὸ ἡγεύμενον καὶ παροξυνόμενον καὶ αὐξόμενον ἅμα ἐκείνῳ, δύναμιν δὲ οὐδεμίην πλείω τῆς προσηκούσης.

XVIII Δῆλα δὲ ταῦτα ὅτι ὧδε ἔχει ἐπὶ τῶνδε τῶν σημείων· πρῶτον μὲν ἔπι τὰ φανερώτερα, ὧν πάντες ἔμπειροι πολλάκις ἤδη ἐσμέν τε καὶ ἐσόμεθα. τοῦτο μὲν γάρ, ὅσοισιν ἂν ἡμέων κόρυζα ἐγγένηται, καὶ ῥεῦμα κινηθῇ διὰ τῶν ῥινῶν, τοῦτο ὡς τὸ πολὺ δριμύτερον τοῦ πρότερον γινομένου τε καὶ ἰόντος ἐκ τῶν ῥινῶν καθ' ἑκάστην ἡμέρην καὶ οἰδέειν μὲν ποιέει τὴν ῥῖνα καὶ συγκαίει θερμήν τε καὶ διάπυρον ἐσχάτως, ἢν δὲ τὴν χεῖρα προσφέρῃς, καὶ πλείω χρόνον παρῇ, καὶ ἐξελκοῦται τὸ χωρίον ἄσαρκόν τε καὶ σκληρὸν ἐόν. παύεται δέ πως τό γε καῦμα ἐκ τῆς ῥινός, οὐχ ὅταν τὸ ῥεῦμα γίνηται, καὶ ἡ φλεγμονὴ ᾖ, ἀλλ' ἐπειδὰν παχύτερόν τε καὶ ἧσσον δριμὺ ῥέῃ καὶ πέπον καὶ μεμιγμένον μᾶλλον τοῦ πρότερον γινομένου, τότ' ἤδη καὶ τὸ καῦμα πέπανται. ἀλλ' οἷσι δὲ ὑπὸ ψύχεος φανερῶς αὐτοῦ μόνου

5. *ἰσχυρῶς* MSS: *ἰσχυρὸς* Koraes: *ἰσχυκὼς* Cornford.
6. *καὶ ante ὅσον ἂν χρόνον del.* Kühlewein.
13. *Ante τοῖσι καύσοισί add. ἐν* Kühlewein.
15. *ἔτι τὸ θερμὸν ἢ τὸ ψυχρόν* MSS: *ἐπὶ τὸ θερμὸν τὸ ψυχρόν* Cornford.
21. *μετέχον ὡς ἂν τὸ* MSS: *μὲν ἔχον ὅσον τὸ* Reinhold.
23, 24. *ἐπὶ τὰ* AM: *ἔπι τὰ* Kühlewein: *ἐστι multi* MSS *et* Littré.
28. *ἐσχάτως. ἢν δὲ* MSS: *ἐσχάτως. ἢν δὴ* Koraes.
32. *τὸ πρότερον γινομένῳ* A: *τῷ πρότερον γινομένῳ* M *et* Heiberg: *τοῦ πρότερον γινομένου* Koraes *et* Reinhold. 33. *ἀλλοῖσι δὲ* MSS: *ἀλλ' οἷσι δὲ* Littré.

γίνεται μηδενὸς ἄλλου συμπαραγενομένου, πᾶσι δὲ ἡ αὐτὴ ἀπαλλαγή, ἐκ μὲν τῆς ψύξιος διαθερμανθῆναι, ἐκ δὲ τοῦ καύματος διαψυχθῆναι, καὶ ταῦτα ταχέως παραγίνεται καὶ πέψιος οὐδεμιῆς προσδεῖται, τά τε ἄλλα πάντα, ὅσα διὰ χυμῶν δριμύτητας καὶ ἀκρησίας, φημὶ ἔγωγε γίνεσθαι τὸν αὐτὸν τρόπον καὶ ἀποκαθίστασθαι πεφθέντα καὶ κρηθέντα.

XIX Ὅσα τε αὖ ἐπὶ τοὺς ὀφθαλμοὺς τρέπεται τῶν ῥευμάτων, ἰσχυρὰς καὶ παντοίας δριμύτητας ἔχοντα, ἑλκοῖ μὲν βλέφαρα, κατεσθίει δὲ ἐνίων γνάθους τε καὶ τὰ ὑπὸ τοῖσιν ὀφθαλμοῖσιν, ἐφ' ὅ τι ἂν ἐπιρρυῇ, ῥήγνυσι δὲ καὶ διεσθίει τὸν ἀμφὶ τὴν ὄψιν χιτῶνα. ὀδύναι δὲ καὶ καῦμα καὶ φλογμὸς ἔσχατος κατέχει μέχρι τινός, μέχρι ἂν τὰ ῥεύματα πεφθῇ καὶ γένηται παχύτερα, καὶ λήμη ἀπ' αὐτῶν ᾖ. τὸ δὲ πεφθῆναι γίνεται ἐκ τοῦ μιχθῆναι καὶ κρηθῆναι ἀλλήλοισι καὶ συνεψηθῆναι. τοῦτο δέ, ὅσα ἐς τὴν φάρυγγα, ἀφ' ὧν βράγχοι γίνονται καὶ συνάγχαι, ἐρυσιπέλατά τε καὶ περιπνευμονίαι, πάντα ταῦτα τὸ μὲν πρῶτον ἁλμυρά τε καὶ ὑγρὰ καὶ δριμέα ἀφίει, καὶ ἐν τοῖσι τοιούτοισιν ἔρρωται τὰ νοσήματα· ὅταν δὲ παχύτερα καὶ πεπαίτερα γένηται καὶ πάσης δριμύτητος ἀπηλλαγμένα, τότε ἤδη καὶ οἱ πυρετοὶ παύονται καὶ τἆλλα τὰ λυπέοντα τὸν ἄνθρωπον. δεῖ δὲ δήπου ταῦτα αἴτια ἑκάστου ἡγεῖσθαι εἶναι, ὧν παρεόντων μὲν τοιοντότροπον γίνεσθαι ἀνάγκη, μεταβαλλόντων δὲ ἐς ἄλλην κρῆσιν παύεσθαι. ὁκόσα οὖν ἀπ' αὐτῆς τῆς θέρμης εἰλικρινέος ἢ ψύξιος γίνεται καὶ μὴ μετέχει ἄλλης δυνάμιος μηδεμιῆς, οὕτω παύοιτο ἄν, ὅταν μεταβάλλῃ ἐκ τοῦ θερμοῦ ἐς τὸ ψυχρὸν καὶ ἐκ τοῦ ψυχροῦ ἐς τὸ θερμόν. μεταβάλλει δέ, ὅνπερ προείρηταί μοι τρόπον. ἔτι τοίνυν τἆλλα, ὅσα κακοπαθέει ὁ ἄνθρωπος, πάντα ἀπὸ δυναμίων γίνεται. τοῦτο μὲν γάρ, ὅταν πικρότης τις ἀποχυθῇ, ἣν δὴ χολὴν ξανθὴν καλέομεν, οἷαι ἄσαι καὶ καύματα καὶ ἀδυναμίαι κατέχουσιν. ἀπαλλασσόμενοι δὲ τούτου ἐνίοτε καὶ καθαιρόμενοι ἢ αὐτόματοι ἢ ὑπὸ φαρμάκου, ἢν ἐν καιρῷ τι αὐτῶν γίνηται, φανερῶς καὶ τῶν πόνων καὶ τῆς θέρμης ἀπαλλάσσονται· ὅσον δ' ἂν χρόνον ταῦτα μετέωρα ᾖ καὶ ἄπεπτα καὶ ἄκρητα, μηχανὴ οὐδεμίη οὔτε τῶν πόνων παύεσθαι οὔτε τῶν πυρετῶν. καὶ ὅσοισι δὲ ὀξύτητες προσίστανται δριμεῖαί τε καὶ ἰώδεες, οἷαι λύσσαι καὶ δήξιες σπλάγχνων καὶ θώρηκος καὶ ἀπορίη· οὐ παύεταί τι τούτου πρότερον, πρὶν ἢ ἀποκαθαρθῇ τε καὶ καταστορεσθῇ καὶ μιχθῇ τοῖσιν ἄλλοισιν. πέσσεσθαι δὲ καὶ μεταβάλλειν καὶ λεπτύνεσθαί τε καὶ παχύνεσθαι ἐς χυμῶν εἶδος δι' ἄλλων εἰδέων καὶ παντοίων, δι' ὃ καὶ κρίσιες καὶ ἀριθμοὶ τῶν χρόνων ἐν τοῖσι τοιούτοισι μέγα δύνανται, πάντων δὴ τούτων ἥκιστα προσήκει θερμῷ ἢ ψυχρῷ

32. τι Ermerins: τε M: *om.* A.
36. πάντων δὴ τούτων MSS: *post* δὴ *add.* τι Cornford.

πάσχειν· οὔτε γὰρ ἂν τοῦτό γε σαπείη οὔτε παχυνθείη. τί γὰρ αὐτὸ φήσωμεν εἶναι; κρῆσις αὐτῶν ἁπλῆν πρὸς ἄλληλα ἐχόντων δύναμιν, ἐπεί γε ἄλλῳ οὐδενὶ τὸ θερμὸν μιχθὲν παύσεται τῆς θέρμης ἢ τῷ ψυχρῷ, οὐδέ γε τὸ ψυχρὸν ἢ τῷ θερμῷ; τὰ δὲ ἄλλα πάντα τὰ περὶ τὸν ἄνθρωπον, ὅσῳ ἂν πλείοσι μίσγηται, τοσούτῳ ἠπιώτερα καὶ βελτίω. πάντων δὲ ἄριστα διάκειται ὁ ἄνθρωπος, ὅταν πᾶν πέσσηται καὶ ἐν ἡσυχίῃ ᾖ μηδεμίην δύναμιν ἰδίην ἀποδεικνύμενον. περὶ μὲν οὖν τούτων ἱκανῶς μοι ἠγεῦμαι ἐπιδεδεῖχθαι.

XX Λέγουσι δέ τινες ἰητροὶ καὶ σοφισταὶ ὡς οὐκ εἴη δυνατὸν ἰητρικὴν εἰδέναι ὅστις μὴ οἶδεν, ὅ τι ἐστὶν ἄνθρωπος, ἀλλὰ τοῦτο δεῖ καταμαθεῖν τὸν μέλλοντα ὀρθῶς θεραπεύσειν τοὺς ἀνθρώπους. τείνει δὲ αὐτοῖσιν ὁ λόγος ἐς φιλοσοφίην, καθάπερ Ἐμπεδοκλέης ἢ ἄλλοι οἳ περὶ φύσιος γεγράφασιν ἐξ ἀρχῆς ὅ τι ἐστὶν ἄνθρωπος, καὶ ὅπως ἐγένετο πρῶτον, καὶ ὑπόθεν συνεπάγη. ἐγὼ δὲ τοῦτο μέν, ὅσα τινὶ εἴρηται ἢ σοφιστῇ ἢ ἰητρῷ ἢ γέγραπται περὶ φύσιος, ἧσσον νομίζω τῇ ἰητρικῇ τέχνῃ προσήκειν ἢ τῇ γραφικῇ. νομίζω δὲ περὶ φύσιος γνῶναί τι σαφὲς οὐδαμόθεν ἄλλοθεν εἶναι ἢ ἐξ ἰητρικῆς, τοῦτο δὲ οἷόν τε καταμαθεῖν, ὅταν αὐτήν τις τὴν ἰητρικὴν ὀρθῶς πᾶσαν περιλάβῃ, μέχρι δὲ τούτου πολλοῦ μοι δοκέει δεῖν. λέγω δὲ ταύτην τὴν ἱστορίην, εἰδέναι, ἄνθρωπος τί ἐστιν καὶ δι' οἵας αἰτίας γίνεται, καὶ τἄλλα ἀκριβέως· ἐπεὶ τοῦτό γέ μοι δοκέει ἀναγκαῖον εἶναι ἰητρῷ περὶ φύσιος εἰδέναι καὶ πάνυ σπουδάσαι ὡς εἴσεται, εἴπερ τι μέλλει τῶν δεόντων ποιήσειν, ὅ τί τέ ἐστιν ἄνθρωπος πρὸς τὰ ἐσθιόμενά τε καὶ πινόμενα καὶ ὅ τι πρὸς τὰ ἄλλα ἐπιτηδεύματα, καὶ ὅ τι ἀφ' ἑκάστου ἑκάστῳ συμβήσεται, καὶ μὴ ἁπλῶς οὕτως· πονηρόν ἐστιν βρῶμα τυρός· πόνον γὰρ παρέχει τῷ πληρωθέντι αὐτοῦ· ἀλλὰ τίνα τε πόνον καὶ διὰ τί καὶ τίνι τῶν ἐν τῷ ἀνθρώπῳ ἐνεότων ἀνεπιτήδειον· ἔστι γὰρ καὶ ἄλλα πολλὰ βρώματα καὶ πόματα πονηρά, ἃ διατίθησι τὸν ἄνθρωπον οὐ τὸν αὐτὸν τρόπον. οὕτως οὖν μοι ἔστω, οἷον· οἶνος ἄκρητος πολλὸς ποθεὶς διατίθησί πως τὸν ἄνθρωπον· καὶ πάντες ἂν οἱ εἰδότες τοῦτο γνοίησαν, ὅτι τοιαύτη δύναμις οἴνου, καὶ οὐκ αὐτός ἐστιν αἴτιος· καὶ οἷσί γε τῶν ἐν τῷ ἀνθρώπῳ τοῦτο δύναται μάλιστα, οἴδαμεν. τοιαύτην δὴ βούλομαι ἀληθείην καὶ

1, 2. *τί γὰρ αὐτὸ φήσωμεν εἶναι; κρήσιας αὐτῶν ἄλλην πρὸς ἄλληλα ἐχούσας δύναμιν* A: *τί δ' ἂν αὐτὸ φαίημεν . . . κρῆσίς τις αὐτέων ἐστι πλὴν πρὸς ἄλληλα ἔχουσα δύναμιν* M: Cornford *coni. κρῆσις αὐτῶν, ἁπλῆν πρὸς ἄλληλα ἐχόντων δύναμιν.*
6. *Post ὅταν add. πᾶν* Kühlewein: *παύη τε* A: *παύηται* Gomperz.
7. *περὶ μὲν οὖν τουτέων ἱκανῶς μοι* M: *περὶ οὗ* A.
13, 14. *ἐξ ἀρχῆς . . . συνεπάγη del.* Reinhold *sed post ἄνθρωπος* (l. 10) *add. καὶ ὅπως συνεπάγη ἐξ ἀρχῆς.*
29. *οἱ εἰδότες* A: *ἰδόντες* M.
29, 30. *ὅτι αὕτη δύναμις οἴνου καὶ αὐτὸς αἴτιος* A: *post αὕτη* M *add. ἡ, post αὐτὸς* add. *ἐστιν*: *ὅτι τοιαύτη δύναμις οἴνου καὶ οὐκ αὐτὸς αἴτιος* Jones.

περὶ τῶν ἄλλων φανῆναι. τυρὸς γάρ, ἐπειδὴ τούτῳ σημείῳ ἐχρησάμην, οὐ πάντας ἀνθρώπους ὁμοίως λυμαίνεται, ἀλλ' εἰσὶν οἵτινες αὐτοῦ πληρεύμενοι οὐδ' ὁτιοῦν βλάπτονται, ἀλλὰ καὶ ἰσχύν, οἷσιν ἂν συμφέρῃ, θαυμασίως παρέχεται, εἰσὶ δ' οἳ χαλεπῶς ἀπαλλάσσουσιν. διαφέρουσιν οὖν τούτων αἱ φύσιες, διαφέρουσιν δὲ κατὰ τοῦτο, ὅπερ ἐν τῷ σώματι ἔνεστι πολέμιον τυρῷ καὶ ὑπὸ τούτου ἐγείρεταί τε καὶ κινέεται· οἷσιν ὁ τοιοῦτος χυμὸς τυγχάνει πλείων ἐνεὼν καὶ μᾶλλον ἐνδυναστεύων ἐν τῷ σώματι, τούτους μᾶλλον κακοπαθέειν εἰκός· εἰ δὲ πάσῃ τῇ ἀνθρωπίνῃ φύσει ἦν κακόν, πάντας ἂν ἐλυμήνατο. ταῦτα δὲ εἴ τις εἰδείη, οὐκ ἂν πάσχοι τάδε.

XXI Ἐν τῇσιν ἀνακομιδῇσι τῇσιν ἐκ τῶν νούσων, ἔτι δὲ καὶ ἐν τῇσι νούσοισι τῇσι μακρῇσι, γίνονται πολλαὶ συνταράξιες, αἱ μὲν ἀπὸ ταὐτομάτου, αἱ δὲ καὶ ἀπὸ τῶν προσενεχθέντων τῶν τυχόντων. οἶδα δὲ τοὺς πολλοὺς ἰητρούς, ὥσπερ τοὺς ἰδιώτας, ἢν τύχωσι περὶ τὴν ἡμέρην ταύτην τι κεκαινουργηκότες, ἢ λουσάμενοι ἢ περιπατήσαντες ἢ φαγόντες τι ἑτεροῖον, ταῦτα δὲ πάντα βελτίω προσενηνεγμένα ἢ μή, οὐδὲν ἧσσον τὴν αἰτίην τούτων τινὶ ἀνατιθέντας, τὸ μὲν αἴτιον ἀγνοεῦντας, τὸ δὲ συμφορώτατον, ἢν οὕτω τύχῃ, ἀφαιροῦντας. δεῖ δὲ οὔ, ἀλλ' εἰδέναι, τί λουτρὸν ἀκαίρως προσγενόμενον ἐργάσεται ἢ τί κόπος· οὐδέποτε γὰρ ἡ αὐτὴ κακοπαθίη τούτων οὐδετέρου, οὐδέ γε ἀπὸ πληρώσιος οὐδ' ἀπὸ βρώματος τοίου ἢ τοίου. ὅστις οὖν ταῦτα μὴ εἴσεται ὡς ἕκαστα ἔχει πρὸς τὸν ἄνθρωπον, οὔτε γινώσκειν τὰ γινόμενα ἀπ' αὐτῶν δυνήσεται οὔτε χρέεσθαι ὀρθῶς.

XXII Δεῖν δέ μοι δοκέει καὶ ταῦτα εἰδέναι, ὅσα τῷ ἀνθρώπῳ παθήματα ἀπὸ δυναμίων γίνεται, καὶ ὅσα ἀπὸ σχημάτων. λέγω δέ τι τοιοῦτον, δύναμιν μὲν εἶναι τῶν χυμῶν τὰς ἀκρότητάς τε καὶ ἰσχύν, σχήματα δὲ λέγω, ὅσα ἔνεστιν ἐν τῷ ἀνθρώπῳ· τὰ μὲν γὰρ κοῖλά τε καὶ ἐξ εὐρέος ἐς στενὸν συνηγμένα, τὰ δὲ καὶ ἐκπεπταμένα, τὰ δὲ στερεά τε καὶ στρογγύλα, τὰ δὲ πλατέα τε καὶ ἐπικρεμαμένα, τὰ δὲ διατεταμένα, τὰ δὲ μακρά, τὰ δὲ πυκνά, τὰ δὲ μανά τε καὶ τεθηλότα, τὰ δὲ σπογγοειδέα τε καὶ ἀραιά. τοῦτο μὲν οὖν ἑλκύσαι ἐφ' ἑωυτὸ καὶ ἐπισπάσασθαι ὑγρότητα ἐκ τοῦ ἄλλου σώματος, πότερον τὰ κοῖλά τε καὶ ἐκπεπταμένα ἢ τὰ στερεά τε καὶ στρογγύλα ἢ τὰ κοῖλά τε καὶ ἐς στενὸν ἐξ εὐρέος συνηγμένα δύναιτο ἂν μάλιστα; οἶμαι μὲν τὰ τοιαῦτα, τὰ ἐς στενὸν συνηγμένα ἐκ κοίλου τε καὶ εὐρέος. καταμανθάνειν δὲ δεῖ ταῦτα ἔξωθεν ἐκ τῶν φανερῶν. τοῦτο μὲν γὰρ τῷ στόματι κεχηνὼς ὑγρὸν οὐδὲν ἀνασπάσεις, προμυλλήνας δὲ καὶ συστείλας πιέσας τε τὰ χείλεα καὶ ἔπειτεν αὐλὸν προσθέμενος ῥηϊδίως ἀνασπάσαις ἂν ὅ τι

10, 11. πάσχοι. τὰ δ' ἐν MSS: πάσχοι τάδε. ἐν κ. τ. λ. Gomperz.
16. *Post* προσενηνεγμένα *fortasse addendum* ἤ.
35. ἀνασπάσαις A: ἀνασπάσειε(ν) Paris. 2141, 2143: ἀνασπάσεις Paris. 2144, 2145.
36. ἔπειτεν Kühlewein: ἐπί τε A: ἔτι τε M.

ἐθέλοις. τοῦτο δὲ αἱ σικύαι προσβαλλόμεναι ἐξ εὐρέος εἰς στενότερον συνηγμέναι πρὸς τοῦτο τετέχνηνται, πρὸς τὸ ἕλκειν ἐκ τῆς σαρκὸς καὶ ἐπισπᾶσθαι, ἄλλα τε πολλὰ τοιουτότροπα. τῶν δὲ ἔσω φύσει τοῦ ἀνθρώπου σχῆμα τοιοῦτον κύστις τε καὶ κεφαλὴ καὶ ὑστέρη γυναιξίν, καὶ φανερῶς ταῦτα μάλιστα ἕλκει καὶ πλήρεά ἐστιν ἐπάκτου ὑγρότητος αἰεί. τὰ δὲ κοῖλα καὶ ἐκπεπταμένα ἐπεισρυεῖσαν μὲν ἂν ὑγρότητα μάλιστα δέξαιτο πάντων, ἐπισπάσαιτο δ' ἂν οὐχ ὁμοίως. τὰ δέ γε στερεὰ καὶ στρογγύλα οὔτ' ἂν ἐπισπάσαιτο οὔτ' ἂν ἐπεισρυεῖσαν δέξαιτο· περιολισθάνοι τε γὰρ ἂν καὶ οὐκ ἔχοι ἕδρην, ἐφ' ἧς μένοι. τὰ δὲ σπογγοειδέα τε καὶ ἀραιά, οἷον σπλήν τε καὶ πνεύμων καὶ μαζοί, τὰ προσκαθεζόμενα μάλιστα ἀναπίνοι, καὶ σκληρυνθείη ἂν καὶ αὐξηθείη ὑγρότητος προσγενομένης ταῦτα μάλιστα. οὐ γὰρ ἄν, ὥσπερ ἐν κοιλίῃ, ἐν ᾗ τὸ ὑγρόν, ἔξω τε περιέχει αὐτὴ ἡ κοιλίη, ἐξαγγίζοιτο ἂν καθ' ἑκάστην ἡμέρην, ἀλλ' ὅταν πίῃ καὶ δέξηται αὐτὸ ἐς ἑωυτὸ τὸ ὑγρόν, τὰ κενὰ καὶ ἀραιὰ ἐπληρώθη, καὶ τὰ σμικρὰ πάντῃ, καὶ ἀντὶ μαλθακοῦ τε καὶ ἀραιοῦ σκληρός τε καὶ πυκνὸς ἐγένετο καὶ οὔτ' ἐκπέσσει οὔτ' ἀφίησιν· ταῦτα δὲ πάσχει διὰ τὴν φύσιν τοῦ σχήματος. ὅσα δὲ φῦσάν τε καὶ ἀνειλήματα ἀπεργάζονται ἐν τῷ σώματι, προσήκει ἐν μὲν τοῖσι κοίλοισι καὶ εὐρυχωρέσιν, οἷον κοιλίῃ τε καὶ θώρηκι, ψόφον τε καὶ πάταγον ἐμποιέειν· ὅτε γὰρ ἂν μὴ ἀποπληρωθῇ οὕτως ὥστε στῆναι, ἀλλ' ἔχῃ μεταβολάς τε καὶ κηνήσιας, ἀνάγκη ὑπ' αὐτῶν ψόφον καὶ καταφανέας κινήσιας γίνεσθαι. ὅσα δὲ σαρκώδεά τε καὶ μαλθακά, ἐν τοῖσι τοιούτοισι νάρκη τε καὶ πληρώματα, οἷα ἐν τοῖσιν ἀποπληγεῖσι, γίνεται. ὅταν δ' ἐγκυρήσῃ πλατεῖ τε καὶ ἀντικειμένῳ καὶ πρὸς αὐτὸ ἀντιπέσῃ, καὶ φύσει τοῦτο τύχῃ ἐὸν μήτε ἰσχυρόν, ὥστε δύνασθαι ἀνέχεσθαι τὴν βίην καὶ μηδὲν κακὸν παθεῖν, μήτε μαλθακόν τε καὶ ἀραιόν, ὥστ' ἐκδέξασθαί τε καὶ ὑπεῖξαι, ἀπαλὸν δὲ καὶ τεθηλὸς καὶ ἔναιμον καὶ πυκνόν, οἷον ἦπαρ, διὰ μὲν τὴν πυκνότητα καὶ πλατύτητα ἀνθέστηκέ τε καὶ οὐχ ὑπείκει, φῦσα δ' ἐπισχομένη αὔξεταί τε καὶ ἰσχυροτέρη γίνεται καὶ ὁρμῇ μάλιστα πρὸς τὸ ἀντιπαῖον. διὰ δὲ τὴν ἀπαλότητα καὶ τὴν ἐναιμότητα οὐ δύναται ἄνευ πόνων εἶναι, καὶ διὰ ταύτας τὰς προφάσιας ὀδύναι τε ὀξύταται καὶ πυκνόταται πρὸς τοῦτο τὸ χωρίον γίνονται ἐμπυήματά τε καὶ φύματα πλεῖστα. γίνεται δὲ καὶ ὑπὸ φρένας ἰσχυρῶς, ἥσσον δὲ πολλόν· διάτασις μὲν γὰρ φρενῶν πλατείη καὶ ἀντικειμένη, φύσις δὲ νευρωδεστέρη τε καὶ ἰσχυροτέρη, δι' ὃ ἧσσον ἐπώδυνά ἐστιν, γίνεται δὲ καὶ περὶ ταῦτα καὶ πόνοι καὶ φύματα.

2. τετεχνημέναι A: τετεχνήαται M: τετέχνηνται Kühlewein.
8, 9. ἂν *post* περιολισθάνοι τε γὰρ *om.* A.
10. τὰ *ante* προσκαθεζόμενα *add.* Diels. 12. ὥσπερ ἢν ἐν M.
13. περίεχει M: περιέχη A: περιέχοι Heiberg. καὶ *post* κοιλίη MSS: *del.* Kühlewein. ἐξαγγίζοιτ' M: ἐξαλίζοιτ' Littré (*cf.* Galen XIX 98).
23. ἀποσφαγίσι A: ἀποσφαγεῖσι M: ἀποφραγεῖσι Koraes: ἀποπληγεῖσι Littré.
28. ἐπιχεομένη A: ἐπιδεχομένη M: ἐπισχομένη Reinhold: ὑποδεχομένη Littré.

XXIII Πολλὰ δὲ καὶ ἄλλα καὶ ἔσω καὶ ἔξω τοῦ σώματος εἴδεα σχημάτων, ἃ μεγάλα ἀλλήλων διαφέρει πρὸς τὰ παθήματα καὶ νοσέοντι καὶ ὑγιαίνοντι, οἷον κεφαλαὶ σμικραὶ ἢ μεγάλαι, τράχηλοι λεπτοὶ ἢ παχέες, μακροὶ ἢ βραχέες, κοιλίαι μακραὶ ἢ στρογγύλαι, θώρηκος πλευρέων πλατύτητες ἢ στενότητες, ἄλλα μυρία, ἃ δεῖ πάντα εἰδέναι ἢ διαφέρει, ὅπως τὰ αἴτια ἑκάστων εἰδὼς ὀρθῶς φυλάσσηται.

XXIV Περὶ δὲ δυναμίων χυμῶν, αὐτῶν τε ἕκαστος ὅ τι δύναται ποιέειν τὸν ἄνθρωπον, ἐσκέφθαι, ὥσπερ καὶ πρότερον εἴρηται, καὶ τὴν συγγένειαν ὡς ἔχουσι πρὸς ἀλλήλους. λέγω δὲ τὸ τοιοῦτον· εἰ γλυκὺς χυμὸς ἐὼν μεταβάλλοι ἐς ἄλλο εἶδος, μὴ ἀπὸ συγκρήσιος, ἀλλὰ αὐτὸς ἐξιστάμενος, ποῖός τις ἂν πρῶτος γένοιτο, πικρὸς ἢ ἁλμυρὸς ἢ στρυφνὸς ἢ ὀξύς; οἶμαι μέν, ὀξύς. ὁ ἄρα ὀξὺς χυμὸς ἀνεπιτήδειος προσφορῶν ἂν τῶν λοιπῶν εἴη μάλιστα, εἴπερ ὁ γλυκύς γε πάντων ἐπιτηδειότατος. οὕτως εἴ τις δύναιτο ζητέων ἔξωθεν ἐπιτυγχάνειν, καὶ δύναιτο ἂν πάντων ἐκλέγεσθαι αἰεὶ τὸ βέλτιστον· βέλτιστον δέ ἐστιν αἰεὶ τὸ προσωτάτω τοῦ ἀνεπιτηδείου ἀπέχον.

12. ἀνεπιτήδειος A: ἂν ἐπιτήδειος M: προσφορῶν Diels: προσφόρων A: προσφέρων M: προσφέρειν Kühlewein.
13. ἐπιτηδειότατος A: ἀνεπιτηδειότατος M.

ANCIENT MEDICINE

Chapter I

All who, having taken in hand to speak or write about medicine, have postulated for their argument a postulate of their own—heat, or cold, or moisture or dryness, or any other thing they fancy—narrowing down the primary cause of men's diseases and death by postulating one thing or two as the same cause for all, these make obvious errors in many of their novelties. But they deserve most censure because they are dealing with an art that really exists, one used on the most important occasions by all men, who pay the highest honour to its good craftsmen and practitioners. For of the practitioners some are poor, others very outstanding. It would not be so if there were no medical art at all, or if no research had been carried out and no discovery made; all would be equally inexperienced and unlearned in it, and the whole treatment of the sick would be a matter of chance. As it is, however, this is not so; but just as in all other arts there are great differences in the manual skill and mental power of the practitioners, so too in the case of medicine. Wherefore, I considered that it has no need of an empty postulate, as do insoluble mysteries, which necessarily require the use of a postulate, if an attempt be made to discuss them, for instance the mysteries of heaven and of the regions below. If anyone were to express his opinion about the condition of these, it would not be plain either to the speaker himself or to the audience whether the statements were true or not. For there is no test the application of which would bring certain knowledge.

1 The writer uses the plural, not as a polite reference to one person, but because there were several who would have introduced philosophic postulates into the science of medicine. This is plain from the phrases ἄλλο τι δ ἂν θέλωσιν and ἓν ἢ δύο ὑποθέμενοι.

The objections brought against the innovators are: (1) one cause is assigned for all diseases; (2) a τέχνη of medicine already exists, the well established conclusions of which are ignored; (3) philosophic postulates can be subjected to no test. The second objection, as the following chapters show, is the one that carries most weight with the writer.

5 It is possible to make sense of the MSS. reading καὶ οἷσι, "even in their statements." That is to say: the innovators' *dicta* are not only contrary to fact, but also inconsistent one with another. But Schöne's emendation is palaeographically easy and gives an excellent sense.

14 The exact sense of καὶ κατὰ χεῖρα καὶ κατὰ γνώμην is difficult to determine, owing to the wide area covered by γνώμη. Cornford thought that γνώμη means here "judgment," but "intelligence," "brain power" or "knowledge" fit the context equally well.

In meaning the imperfect ἠξίουν differs little from ἀξιῶ, but seems to refer back to the time when the author first heard of the new theories. The effect is much the same as that of the English: "I have never thought a postulate necessary." 15

Palaeographically there is little to choose between καινῆς and κενῆς, words easily confused one with the other. As objections are being raised against novelties, it is easy to see why Kühlewein and Heiberg read καινῆς, and they are supported by the probability of Schöne's emendation καινοῖσι earlier in the chapter. But καινῆς would imply that the old τέχνη of medicine was based on a postulate, which the writer sturdily denies. A ὑπόθεσις has no place in medicine, being unverifiable, "empty," so that nothing can be got out of it. The proper place for ὑποθέσεις is a discussion on the "insoluble mysteries" of heaven and hell. The first sentence of XIII gives a little support to καινῆς. 16

The translation of λέγοι καὶ γινώσκοι was suggested by Cornford. Another meaning of the phrase is possible. In chapter XV τῶν γινωσκομένων means "of things known." If γινώσκοι has the same sense here, and if the author is using his favourite construction *hysteron proteron*, we get the meaning: "If a man should by chance know something about these mysteries, and make his knowledge known, no test can be applied." That is to say, his knowledge is a mere lucky guess, the result of accident and not of reasoning, and quite incapable of verification. Or again, it might be: "if one were to declare their nature, even with knowledge." 18, 19

Chapter II.

But medicine has long had everything to hand, with a principle and method already discovered, by which many excellent discoveries have been made over a long period; while what remains will be discovered, if the inquirer be competent and familiar with discoveries already made, conducting his researches with these as his starting point. But whoever spurns and rejects all these, attempting to conduct research after a different method and fashion, and then declares that he has made some discovery, deceives and is deceived. He attempts the impossible. Why it must be impossible I will try to shew by setting forth proofs that the Art really exists. From this it will be manifest that it is impossible for discoveries to be made in any other way. Especially am I convinced that he who speaks about this art must speak of things familiar to ordinary people. For his concern, both in research and in discourse, is with nothing except with the symptoms of their own diseases and pains. Now to learn unaided about their own symptoms, how they arise and cease, with the causes of their getting worse or better, is not easy for ordinary folk, but when discovered and explained by some one else there is no difficulty. For nothing but an effort of memory is required from each when he hears his own sufferings described. But if any fail to make laymen understand and to put their hearers into the state required, they will fail to secure their real object.

These accordingly are further reasons why medicine has no need of a postulate.

The word σχήματι adds little to ὁδῷ, the phrase being similar to our "in no shape or form." 7

The MSS. reading ἐξηπάτηται will give the sense "has been and still is the victim of deception." 8

As the chief point is to show that medicine as long practised is a craft with its own method and principles, it seems better to read ὅτι with A and ἔστιν with Kühlewein. The reading of M would give: "by giving an exposition of what the Art is." 9 10

The phrase γνωστὰ λέγειν seems to suggest two ideas, "to speak of familiar things" and "to use intelligible language." What follows breaks the thread of the main argument, which is resumed at the beginning of ch. III. In a modern book the passage would appear as a note. 12

The best Greek physicians tried to gain the confidence and co-operation of their patients by telling them (instead of asking them) the previous symptoms of their complaint. This exposition was an important part of what was called πρόγνωσις, which included the whole course of a disease. The author remarks that this difficult part of a physician's task is made easier by speaking only of things the patient recognises, but that it would be further complicated by speaking of ὑποθέσεις. The clause τοῦ ἐόντος ἀποτεύξεται seems equivalent to the English colloquialism, "he will get no further." See especially the Cnidian work περὶ παθῶν, ch. I (Littré VI 208) translated in my *Anonymus Londinensis*, p. 18). 19

Chapter III

The medical art would not have been discovered to begin with, nor would any medical research have been carried out (for there would be no need for it), were sick men benefited by the same regimen and diet as suit men in health, by their food, drink, or regimen generally, and there were nothing else for the sick better than these. As it is, sheer necessity has caused men to search for and discover medicine, because the same diet did not benefit, just as it does not benefit today, sick and well alike. To go further back still; I hold that the regimen and nutriment which men in health now use would not have been discovered at all, if men were satisfied with the same food and drink as satisfy an ox or a horse or any creature except men, for example, the things that grow out of the earth—fruits, wood and grass. For on these things they are nourished, grow and live painlessly without needing any other regimen. And yet at the first I am of opinion that men too used nutriment of such a nature, and their present methods of living, I am convinced, took a long time before they were established by discovery and art. For men endured much terrible suffering from strong and brutish regimen when they partook of foods

crude, unblended, and possessing powerful qualities, just such, in fact, as they would endure through them today, falling into violent pains and diseases speedily followed by death. These sufferings were likely to be less severe at this early period because of habituation, but even then they were violent, so that most men, having constitutions too weak, were likely to perish, while those more robust than these held out longer, just as at the present time also some easily cope with strong foods, others do so only with many pains and ills. It was for this reason that primitive men too, I am convinced, sought for food that suited their constitution, and found that which we now use. So from the grain by steeping, winnowing, grinding, sifting, kneading, baking, they finally produced a loaf, and from barley a cake. Experimenting with these materials they mixed, and boiled or baked, many other things, and compounding the strong and unblended with the weaker substances they moulded all to suit the constitution and power of man, thinking that if foods were taken which were strong, the constitution would not be able to digest them, and that they would of themselves cause pains, diseases and death; while from food that can be digested would come nutrition, growth and health. To this research and discovery what more correct or appropriate name could be given than medical science, seeing that its discovery has made for the health, safety and nourishment of man, and has displaced that old regimen from which used to come the pain, disease and death?

The imperfects *ἔδει, συνέφερεν, ἦν, ἐξήρκει,* might almost equally well be taken as denoting continuous action in the past. But it seems more natural to regard them as referring to present time, as they denote things that are always true. 3-5

Medicine is defined as a special kind of dietetics. There seems to be a reminiscence of Democritus in *θηριώδεος διαίτης.* See Diodorus I, 8, 1 (Diels, Lieferung 4, p. 135): *τοὺς δὲ ἐξ ἀρχῆς γεννηθέντας . . . ἐν ἀτάκτῳ καὶ θηριώδει βίῳ καθεστῶτας.* 17

The order of the words in these enumerations (*βρέξαντες . . . ὀπτήσαντες* and *ἤψησαν . . . ἔμιξαν*) is certainly not altogether chronological. In the list of participles the most important process comes first, followed by the other processes in order of time. In the trio of aorists a similar principle is followed, but in this case it is odd to find two alternative processes connected by the particles *τε καί,* which generally mark a close union. 27

The reading of the MSS (*ταύτην*) would give: "Making many and varied experiments with this cake they mixed, boiled or baked, and compounded the strong and unblended with the weaker ingredients, moulding all to suit etc." That is, barley cake was diluted and treated so as to suit different degrees of health. But the details given certainly seem to refer, not to the barley gruel of invalids described in chapter V, but to the various foods of an ordinary diet, which resulted, as is said earlier in the present chapter, from a modification of primitive regimen. So the emendation of Kühlewein (*ταῦτα*), or something like it, perhaps *τοιαῦτα,* should probably be read. 29

Once more the order (in *τῷ εὑρήματι τούτῳ καὶ ζητήματι*) is determined by the comparative importance (to the mind of the writer) of the things signified by the two words in this context. 35

Chapter IV

That medicine is not considered to be an art need occasion no surprise. For when nobody is a layman in an art, but all have knowledge because all are compelled to practise it, nobody is appropriately styled an artist therein. And yet the discovery was a great one, requiring much research and art. At any rate, even today, those in charge of physical training are always making some fresh discovery by research on these lines, what food and drink a man can best digest and so increase in strength.

It is informative to learn that the author looks upon athletic trainers and physicians as employing "the same way" of research and as aiming at the same objects. Modern medicine seems to devote itself to cures. Preventive medicine is recognised, but tends to take a second place; the art of building up health, of strengthening body and mind with a view to the maximum efficiency of both—this, important as it obviously is, is neglected, or left to be carried out by such institutions as hydropathic establishments. The Greeks were not so stupid; they recognised, in theory and in practice, that the art of healing must be combined with the art of health. The Hippocratic work *Regimen*, in four books, is a good indication of the Greek attitude to this matter.

Chapter V

Let us examine also the acknowledged art of medicine, which was discovered for the treatment of the sick, having a name and craftsmen, to find out whether it too aims in any way at the same objects, and what is its origin. For my conviction is, as I said at the beginning, that no one would even have sought for the medical art, if the same regimen suited both the sick and the well. At any rate, even today, such as make no use of the medical art, foreigners and also some Greeks, live as they like in the same way as do those who are well, and will neither abstain from anything that they crave for, nor exercise any restraint. But those who sought and found medical science, having in view the same object as those others about whom I have spoken above, at first, I believe, merely lessened the bulk of the primitive foods, making them very much less in quantity but leaving the quality unchanged. Finding, however, that patients were only occasionally relieved by this, which, though plainly beneficial, was not so for all, as some were in such a state that even the least food was too much for their digestion, they were of opinion that such were clearly in need of a weaker form of nutriment. So they invented slops, mixing with much water small quantities of strong ingredients, lessening the strength by blending and boiling. When even slops could not be digested, they refused

to give these also, and reduced the patients to drinks, being careful that even these should be well blended and moderate in bulk, administering nothing greater in quantity than it should be, nothing too little blended or too deficient in any way.

In the sentence beginning ἔτι γοῦν καὶ νῦν, we have one of the many passages in *Ancient Medicine* where the exact connection of thought is hard to follow. Here it apparently is that some of the writer's contemporaries were so hardy that they either never fell ill, or, if they did, found it unnecessary to modify their mode of living in order to recover their health. The phrase (ἔτι γοῦν καὶ νῦν) has already occurred in IV, perhaps unconsciously suggested after a conscious use.

Chapter VI

For it must be fully realised that some people in their sickness get no good from slops, but whenever they take them their fever and pain grow manifestly worse. Plainly what was taken became nourishment and increase to the sickness, but destruction and weakness to the body. All patients who are in this condition, on taking solid food, barley-cake or bread, even a very little, will be ten times more seriously and obviously harmed than if they take slops, simply because the strength of the food is too much for their condition. And the patient who gets good from slops, but not from solid food, will suffer far more harm if he eat much than if he eat little, but even a little will cause pain. All the causes of pain can be reduced to one; the strongest nutriment hurts a man most, and most obviously, whether he be well or ill.

The readings ἄντικρυς (M) φανερῶς (A) give strong support to the view that at some stage in the tradition of the Hippocratic text little attention was paid to minute fidelity of transcription provided that the sense of the original was accurately given. See Loeb, *Hippocrates*, II, xlix and IV, lvii and lviii.

At the end of the chapter we are told that though excess of quantity is harmful in diet, the most harmful factor is τὸ ἰσχυρότατον, intensity of a characteristic which in moderation may be harmless or even beneficial. This distinction of degree from quantity is apparently drawn here for the first time. It marks an important advance in the history of thought, and had much influence upon Plato's theory of pleasure as outlined in the *Philebus* and upon Aristotle's theory of the "happy mean" in the Nicomachean *Ethics*.

Chapter VII

What difference, then, is to be seen between the conception of the acknowledged craftsman whom we call physician, the discoverer of the regimen and food suitable for the sick, and that of the genius who origin-

ally discovered and provided for men in general our modern food to take the place of that old savage and brutish regimen? In my view the reasoning of the one was the same as that of the other, and their discoveries were one and the same. The one sought to remove all the things which, when they are taken, the human constitution though in health could not digest on account of their brutish and unblended nature; the other sought to remove whatever cannot be digested in the temporary condition of each individual sufferer. How do the two differ, except that medicine is wider in scope,[1] more complex, and a subject demanding closer attention than the other, which however came first in time and was the starting-point?

ἐμπίπτοντα. See XIV. It is difficult to decide whether or not this word hints that unsuitable food "attacks" the organs of digestion. 8

The first part of the last sentence presents two difficulties—the reading, and the meaning of *εἶδος*. The most normal grammar is obtained by reading *γε* with A and deleting with Reinhold *πλέον*, which may perhaps have arisen from *πλήν*, a marginal note paraphrasing *ἀλλ' ἤ*. On the whole it seems better to follow Heiberg, who keeps *πλέον* and reads *τε* with M. This leaves the structure irregular, as *ὅτι* (sc. *ἐστι*) should strictly be before *πλέον*. Fortunately the meaning is unaffected. A. E. Taylor in his *Varia Socratica* gives "appearance" as the meaning of *εἶδος*, i. e. ordinary dietetics and medicine appear to be different, but are really the same. But if we keep *πλέον*, *εἶδος* had better be rendered "scope" (i. e. "range" or "form"). 12

Chapter VIII

If one were to consider the regimen of the sick in its relation to that of the well, one would find the possible harm no greater than that which may result when the regimen of the well is considered in its relation to that of wild beasts and animals generally. For suppose that a patient, ill with a disease neither desperately severe nor yet altogether mild, though likely to become pronounced under wrong treatment, were to take it into his head to eat bread and meat, or some other food beneficial to men in health—not much of it, but far less than he could have taken when in health; suppose again that a man in health, with a constitution neither altogether weak nor yet strong, were to eat what would benefit and strengthen if eaten by an ox or a horse—vetches or barley or something of the kind—not much of it, but far less than his capacity. A man in health who did this would be subject to pain and danger no less than would that sick man who took unseasonably bread or barley cake. All these facts are evidence that this art of medicine can all be discovered if research continue on the same lines.

[1] Or "appearance."

The meaning of the first sentence is determined by the words later in the chapter: *οὐκ ἂν ἧσσον . . . προσηνέγκατο*, the well man who eats the food of beasts will suffer as much pain as the sick man who eats the food of the well. Heiberg's text gives this sense most easily, and has been adopted. The manuscripts show many, but not very important variations, M omitting *οὐ* before *βλαβερωτέρην*.

But what is *βλαβερή* is not the "sick" diet of the first relation but the "well"; not the "well" diet of the second relation, but that of the beasts. In other words, either the words are clumsily put together, or *βλαβερωτέρην* has displaced a more appropriate adjective.

Chapter IX

If the question were as simple as my brief outline suggests, if, that is, stronger nutriment injured while weaker nutriment benefited and nourished both sick and well, the matter would be easy. For to achieve a high degree of safety it would be necessary merely to reduce the strength. But as it is, the mistake is equally serious, doing a man no less injury, if the nutriment taken be too little and deficient. For abstinence has on the constitution of man an influence strong and powerful enough to cause prostration, weakness and death. Many other ills also result from depletion, different indeed from those of surfeit, but no less serious. Wherefore these ills are much more complex than we realize, requiring greater accuracy of method. For it is necessary to aim at some measure. But no measure, neither number nor weight, can be found, reference to which would give accurate knowledge, other than the feeling of the body. Wherefore it is our task to acquire knowledge so accurate, that the margin of error on either side is a narrow one—I would give high praise to the physician whose errors are but slight—and exactness is rarely to be seen. For the majority of physicians seem to me to be in the same condition as bad steersmen. For the mistakes of these are not obvious so long as they are steering in a calm. But when there fall upon them a severe storm and a violent gale, everybody clearly realises then that they have lost the ship through their blundering ignorance. In the same way, bad physicians—and most of them are bad—so long as they treat patients with no serious illness, so that no great harm could be done by the worst blunders—such illnesses are common, occurring much more frequently among men than serious ones—under these circumstances do not manifest their blunders to laymen; but when they are faced with a severe, violent and dangerous illness, then their blunders and want of skill are obvious to everybody. The punishment of either imposter is not delayed, but follows with all speed.

In this chapter our interest centres chiefly round the need for an exact μέτρον, whether ἀριθμός or σταθμός, to measure the effect of mistakes in diet. Such a demand shows a true scientific spirit and outlook. There is no need to change αἰσθησιν to διάθεσιν. Both words give excellent sense, but αἴσθησις could mean either (a) the sensitiveness or reaction of the body to δυνάμεις, or (b) the "feel" of the body to the touch of the physician. See W. Müri in *Hermes*, Band 71 (1936). On the other hand, διάθεσις is a favourite word with the author (twice in VI and once in VII). 11

ἔργον . . . ἔνθα. "Our business is to make knowledge so exact that mistakes occur only by slight deviations through excess or defect." (Note by F. M. Cornford). Plato also (*Philebus* 56 a, b) notices that medicine has no means of exact measurement. This lack of mechanical accuracy must be compensated for by the nice judgment that comes with prolonged experience. 14

For the simile of the pilot or steersman see Plato, *Gorgias*, 511 c ff., *Philebus*, 56 b, *Politicus*, 296 e, *Republic*, 332 e and 488 b ff. 17

Chapter X

That no less severe sufferings come upon a man from unseasonable abstinence [1] than from unseasonable repletion it is well to learn by reference to men in health. For some of them benefit by taking only one meal a day, and because of this benefit have imposed upon themselves a rule to this effect; while others through the same constraint, namely, that they benefit thereby, make it a rule to take lunch as well as dinner. Moreover, there are some who, for the sake of pleasure or through some accident, have taken to the one course or the other. For most men are unaffected by following the habit, whichever it is, that they have formed, whether it be to abstain from lunch or to take it. Others there are who, if they do anything outside their beneficial routine, will not be able to come off easily, but the breaking of either habit for one day, or even for a part of it, is attended with excessive suffering. For the one class, if they lunch though to do so is not beneficial to them, are at once heavy and sluggish in body and mind, being overcome with yawning, drowsiness and thirst, and if they go on to take dinner as well, they suffer from flatulence and colic, with violent diarrhoea, and in many cases these symptoms have proved the beginning of a severe illness, even though on the two occasions together they have taken no more food than they take at their one habitual meal. On the other hand, if a man in the habit of taking lunch, that meal being beneficial to him, refrain from doing so, he experiences at once, as soon as the lunch hour is past, severe prostration, trembling and faintness. In addition, the eyes become hollow, the urine yellower and hotter, the mouth

[1] Or "depletion."

bitter, his bowels seeming to hang, with dizziness, depression and disinclination to exertion. Besides all this, when he tries to take dinner, he finds his food less appetising, and he cannot digest what formerly he used to dine on when he took lunch. This mere food, descending into the belly with colic and noise, burns it up; the patients sleep badly, with disturbed and troubled dreams. For many of these also this experience has proved the beginning of an illness.

This chapter throws some light on the abstemiousness of the Greeks in the matter of food, and also—perhaps not unconnected subjects—on their careful attention to food problems and on the delicate digestions of at least a great number of otherwise quite normal Greeks. Few moderns would be content *μονοσιτεῖν*, to take only one meal every day, in the late afternoon, and fewer still would find a change in feeding for one day, or less, a serious threat to general health. Perhaps this is the place to note how many words are used in this small work for "to digest"—*πέσσω, ἐπικρατῶ, κρατῶ, ἀναλίσκω, καταναλίσκω, ἀπολαύω, ἀπαλλάσσω* (active and middle)—and also the extraordinarily close parallel between *Ancient Medicine* X-XII and *Regimen in Acute Diseases* XXVIII-XXX. See Note E.

Towards the end of the chapter we should expect, not the present participle *ἀριστιζόμενοι*, but the aorist. A close parallel is *σκεπτόμενος* in ch. XIV. In both these cases the participle may represent an imperfect of repeated action, but this explanation will not account for *γινωσκομένων* in ch. XV.

Chapter XI

We must inquire for what reason these symptoms occurred in their case. To the one who had formed the habit of taking only one daily meal they occurred, I think, because he did not wait the requisite time for his belly to enjoy completely and to digest the food taken on the previous day, and to be emptied and rested; on the contrary he took fresh food while the belly was in a state of turmoil and ferment. Such a belly digests much more slowly than others, needing longer rest and quiet. But the man in the habit of taking lunch, because fresh food was not given him the moment his body needed it, having no sustenance after the assimilation of the previous meal, proceeds to waste and pine through want. For to want I attribute all the sufferings that I say such a man experiences. And I maintain that all other men also, who though in good health fast for two or three days, will suffer all the symptoms I have mentioned in the case of those who took no lunch.

It should be noticed how in this chapter and in the preceding stress is rightly laid on regularity of meals. Whether a Greek had one or two meals each day, though occasionally important, usually mattered little. What did matter was that there should be no sudden or violent change of habit.

Chapter XII

Such natures, I maintain, as feel quickly and powerfully the effects of their mistakes, are weaker than the others. The weak man is very near to being a sick man, but the sick man is yet weaker than he, and is more likely to suffer pains from any breaking of regular habits. But it is difficult, when the Art admits of such accuracy, always to attain perfect exactness. Many branches of medicine (about which I shall speak later) have reached such a high degree of accuracy; and I hold that we must not reject the ancient Art as non-existent, or as wrong in its methods, just because it has not attained an accurate standard in everything; but much rather, since it has the power to have risen by reasoning from deep ignorance to, I believe, approximate exactness, we ought to admire its discoveries, as being the result of excellent and correct research, not of chance.

In this chapter we pass from habit-change in health to the even more dangerous results of ἀκαιρία in illness. This leads to the insistence upon ἀκρίβεια, or scientific accuracy in all that pertains to the administration of food, whether in health or disease. It is the degree of ἀκρίβεια already attained by physicians that marks medicine as a true τέχνη already well established. Is it possible to distinguish between ἀκρίβεια and ἀτρέκεια? Probably not; but possibly the former signifies ideal or possible accuracy, the latter accuracy actually achieved.

The promise περὶ ὧν εἰρήσεται appears to be fulfilled in chapter XIV. οἶμαι is parenthetic.

Note that the writer infers from the degree of accuracy already attained by physicians that "ancient medicine" is a true τέχνη, and that its successes are not due to chance.

Chapter XIII

But I wish to go back to the theory of those who carry on research in the Art in the novel way, by deductions from a postulate. For if that which harms a man is some heat, or some cold, or dryness, or moisture, it is consequently necessary for the correct physician to use heat as a remedy for cold, cold as a remedy for heat, dryness for moisture, moisture for dryness. Take a man with the constitution, not of a strong man, but of the weaker sort. Let this man eat wheat, raw and uncooked from the threshing floor, and raw meat, with water to drink. If he follow this diet, be assured that he will suffer much and severely. For he will endure pains, his body will be weak, his digestion ruined, and his life short. What treatment then should be adopted for a man in such a state? Heat or cold, dryness or moisture? One of these, plainly. For if the harm be due to one of these pairs, its opposite ought to remove it, according to the theory of my

opponents. But of course the surest and most obvious remedy is to give up the diet he was following; instead of wheat to give him bread, boiled meat instead of raw, and in addition some wine to drink. These changes must restore him to health, unless his constitution has been utterly undermined by the continuance of the bad diet. What, pray, shall we say? That it was cold that caused his suffering, and because those remedies they applied were hot, benefit resulted? Or should these opposites be reversed? I think that I have made the question very perplexing. Was it the heat of the wheat, or the cold, or the dryness, or the moisture, that the baker took from it? For that which has been exposed both to fire and to water, and prepared by many other things, each of which possesses a power and nature of its own, has lost some of its properties and been blended and mixed with others.

Heiberg puts a comma before ἔστω. The καὶ before δεῖ will then not be intensive but "and." "For if that . . . and it is necessary . . . then let us take a man etc." 7

The writer in this chapter stresses the absurdity of using a ὑπόθεσις, such as "heat is the cause of disease," as a basis for medical treatment.

θερμὰ ταῦτα. The article appears to be omitted, but ταῦτα is probably used substantivally, being qualified by θερμά. 19, 20

δύναμιν καὶ φύσιν is a compound phrase almost equivalent to the English "essence." This apparently simple sentence presents a great difficulty to the translator. The preparation of bread from wheat involves, besides the addition of water and subjection to heat, only the turning of wheat into flour by grinding, sifting and so on, and the addition of leaven, unless the Greeks added salt and other condiments. What then is included in ἄλλοις πολλοῖσι, each of which "has its own peculiar power and nature?" Apparently the bran that is taken away by sifting and the leaven etc. that are added. It seems an exaggeration to call these πολλά, and though the Greek language can express by the use of the dative both the taking away of bran and the adding of leaven, it is hard, if not impossible, to find an accurate yet neat English expression to represent "the taking away of bran and the addition of leaven, the bran and the leaven having their own peculiar properties, the loss or addition of which affects the character of the bread." A little light is thrown on the question by the first part of the next chapter. 24

Chapter XIV

Of course I am further aware that it makes a difference to the human body whether bread is of sifted, or of unsifted flour, whether it is of winnowed or unwinnowed wheat, whether it is kneaded with much or with little water, whether it is thoroughly kneaded or unkneaded, whether it is well baked or underbaked, with countless other differences. It is just the same with barley cake. The qualities moreover of each kind are great, and no one is at all like any other. But how could one who has not

examined these differences or who in spite of examination knows nothing about them, know anything of human complaints? For by each of them a man is affected and altered in one way or another, and upon them depends the whole life of a man in health, in convalescence and in sickness. Therefore there could surely be nothing else more useful or more necessary to know than these matters, and how the original discoverers made their discoveries by conducting research aright, and by reasoning suitably applied to the human constitution, concluding that the Art deserved to be ascribed to a god, as in fact it is in popular opinion. For they did not consider that dryness or moisture or heat or cold or anything else of the kind injured a man, or that he had need of any of these, but they held that it was the strength of each thing, which being too powerful for the human constitution could not be digested, that was causing the harm, and so they sought to take it away. Extreme sweetness is the strongest quality of the sweet, extreme bitterness of the bitter, extreme acidity of the acid; each of all the constituents has its peak. For these they saw are both constituents of a man and injurious to man. For constituents of a man are salt, bitter, sweet, acid, astringent, insipid, and countless other things, possessing powers of all kinds in number and in strength. These when mixed and blended neither are manifest nor cause the man pain; but when one of them has been isolated and set apart by itself, then it both is manifest and causes a man pain. Again, such foods as are unsuitable for us and injurious to a man when taken, are in each case either too bitter or salt or acid or something else unblended and strong, and therefore we are disordered by them, as we are also by the secretions that are isolated in our bodies. But all that a man eats or drinks, are foods plainly free entirely from such an unblended and overpowering flavour, e. g. bread, barley-cake, and their accompaniments, which men are accustomed to use habitually in great quantity, with the exception of things prepared and seasoned to satisfy their taste and greed. When these are taken in great quantity by a man, no disorder arises in the least degree, nor isolation of the powers in the body, but a very high degree of strength, growth and nourishment, simply because the food is well blended, with nothing unblended or strong, forming a single, simple whole.

1 The "powers" of bread are very varied, the variations depending on the various ways in which it, and the flour composing it, are prepared.

7 ἡ ἑτέρη τῇ ἑτέρῃ. A clear instance of ἕτερος = ἄλλος, as it often appears to be in this work. The word ἑκάστου shows that the reference is not to the pair, bread and barley-cake.

ταῦτα μὲν . . . τὸν ἄνθρωπον. Cf. XVI (beginning). There is a close parallel to the thought of this passage in Anaxagoras (fr. 4 Diels, especially πρὶν δὲ ἀποκριθῆναι . . . ἐοικότων ἀλλήλοις); ἀποκρίνω is a favourite word of Anaxagoras, who also uses ἐφ' ἑαυτοῦ γενέσθαι (fr. 6) in the sense of "to become isolated." A philosopher who made bone, flesh, and marrow elemental, and had a keen interest in physiology generally, was likely to appeal to a physician who (ch. XX) sought to explain the macrocosm by the microcosm. 26

τοῦτο δὲ . . . ἀποκρινομένων. It is τὸ ἰσχυρόν that hurts, both as food and as a component of the body. Cf. XV (end). For ἐμπίπτω used of food entering the stomach, see ch. VII. 29

χυμοῦ is here probably "taste" or "flavour," as in *Timaeus*, 65 c ff. (so Cornford), although elsewhere it means "humour." But in the fifth century B.C. a flavour was regarded as a sort of "juice." 34

With ἐσιόντων cf. ἐμπεσόντων (above). 37

τάραχος is the usual word in the *Corpus* for digestive trouble. 37

The emendation of Kühlewein, ἰσόμοιρον for ἰσχυρόν of the MSS., would mean "equable," "well balanced." Cf. ἰσομοιρίη in *Airs, Waters, Places* XII. 41

Chapter XV

I for my part am at a loss to understand how those who hold the new theory, leading the Art from the old way to base it on a postulate, treat their patients according to the postulate; for they have not discovered, I suppose, an absolute hot or cold or dry or moist participating in no other form. But they have to hand, I suppose, the same foods and drinks as we all use, adding to one the quality of being hot, to another of being cold, to another of being dry, to another of being moist, since it would be futile to order an invalid to take "some heat," as he would at once ask, "What hot thing"? So inevitably nonsense is uttered or refuge taken in one of these familiar things. But if there really be one hot thing that is astringent, another that is hot and insipid, and another that is hot and flatulence-producing—for there are many other hot things, possessing other and opposite powers—it will certainly make a difference whether there be administered the hot and astringent, or the hot and insipid, or what is both cold and astringent—for there is such a thing—or the cold and insipid. I am convinced that each member of these two pairs produces exactly the opposite result of that produced by the other, not only in man, but in a vessel of leather or of wood, and in many other things which have not the perceptive powers of man. For it is not heat which has the great power, but astringency and insipidity and the other things I mentioned, both in man and external to him, eaten or drunk or applied externally as ointment or plaster.

οὐ γάρ, . . . κοινωνέον. A great controversy centres round this sentence. See especially A. E. Taylor, *Varia Socratica*, pp. 214-218. It has even been suggested that the passage proves that the theory of Forms was formulated long before Plato. It should be noticed that although the language is Platonic—*αὐτὸ ἐφ' ἑωυτοῦ θερμόν* (= Plato's *αὐτὸ καθ' αὐτὸ θερμόν*), *εἶδει, κοινωνέον*, all in one sentence, can scarcely be a mere coincidence—yet the thought is not that of Plato. The *εἶδος* is not a transcendental Form but a really substantial thing, such as were the four traditional opposites, which correspond closely to the four Empedoclean "roots." The *κοινωνία* is not that of particular and Form, as in Plato, but of an *εἶδος* and other *εἴδη*. The writer means that the four opposites are never found isolated by themselves, but only in combination. Accordingly the physician who believes that diseases are caused by *τὸ θερμόν* cannot prescribe as a cure *τὸ ψυχρόν*, but only one or more of the articles which contain, not only *τὸ ψυχρόν*, but also another property, or other properties, as well. One difficulty that a modern has in understanding all this lies in the fact that, in the words of Taylor, "each of these 'opposites' is looked on . . . as a substantial *thing*, not as an attribute of some still more ultimate body. The discussion belongs to the time . . . before anyone had clearly grasped the notion that a thing could be real without being a body." (*V. S.*, p. 216). Nevertheless, to see that *τὸ θερμόν* is never found by itself is one step towards regarding heat as an attribute. The Greek idiom of using the neuter of an adjective, with the article, as a substantive, helped to make it harder to conceive of abstract qualities. 3

γινωσκομένων, "of things known," not "of things being learned." 10

Chapter XVI

But of all the powers I consider that the least powerful in the body are cold and heat, and the following are the reasons for my belief. So long, surely, as the hot and the cold are combined together in the body, they cause no pain; by blending cold moderates the heat, and heat moderates the cold. When, however, either is isolated, then it causes pain. Now in this season, when cold has come upon a man and caused him some pain, for this very reason speedily before anything else heat appears internally out of the man himself, needing neither reinforcement nor preparation; these effects are produced both in healthy men and in sick. For example, if a man in good health will cool his body in winter, either by a cold bath or by any other means, the greater the degree to which he cools it—provided that his body is not altogether frozen—the warmer it becomes again, warmer in fact than before, when he has put on his clothes and reached his shelter. Again, if he were to make himself thoroughly warm, either by a hot bath or by a large fire, and afterwards were to wear the same clothes and stay in the same place as he was when chilled, he feels far colder and generally more shivery than he did. Or if he fan himself because of the suffocating heat, produce coolness for himself, and then cease to do this in such a manner, the heat and suffocation will be ten

times as great as those which a man feels who does nothing of the kind. The following is even much stronger evidence. Those who through walking across snow or other cold become excessively chilled in feet, hands or head, suffer severely as night comes on, when they have reached a warm place and wrapped up, from burning and tingling, and on some appear blisters like those on people who have been badly burned. It is not before they have become hot that this happens to them; so readily does either of these powers come up as a reinforcement against the other. I could mention thousands of other examples. If we consider sick folk: is it not in those who have suffered from shivering that fever breaks out most sharply? And not only when it is at its height, but also as it gradually subsides, it is mostly harmless, both generally and so long as it is present in extreme hotness. And passing right through the body it ends in most cases in the feet, where the shivering and chill were most violent and persisted unusually long. Again, when the sweating is over and the fever gone, the patient becomes much more chilly than if he had never been attacked to begin with. Accordingly, what important or serious consequence could result from that on which quickly in this way supervenes its very opposite, spontaneously taking away its power, or what need is there of much assistance in dealing with it?

The concept of "temperature" is slowly being evolved. Heat and cold are "powers," but the weakest powers in the body, and constantly alternating. The thought is hazy, and the author is feeling his way in a dim region. He is aware, however, that "hot and cold" have a comparatively small part to play in disease, just as a modern physician regards temperature as a symptom only and not a *vera causa*.

The verbs *πάρεστιν* and *παραγίνεται* are used in the sense of being present to help, like the Latin *adsum*. 7

αὐτόθεν, i. e. not from any external source, but arising spontaneously from within. 8

καὶ ἦν γε μὴ παντάπασιν παγῇ τὸ σῶμα. The sense of the passage is *either*:— 12

(1) even if the body be entirely frozen;

or (2) if the body be not entirely frozen. Probably either *μή* should be deleted [giving (1)] or *καί* [giving (2)].

ὅταν εἵματα λάβῃ καὶ ἔλθῃ ἐς τὴν σκέπην. Possibly but not certainly *hysteron proteron*. Cf. below, *ὅταν περισταλέωσί τε καὶ ἐν ἀλέῃ γένωνται*. 13, 14

μᾶλλον καὶ ἐπὶ πλεῖον. Perhaps a mere pleonasm. The author uses *ἐπὶ πλεῖον* three times in this chapter, prefixing *μᾶλλον* here, and once using *μᾶλλον* by itself, the general sense in all four cases being approximately the same. Strictly *μᾶλλον* should refer to the degree of heat (or of cold) and *ἐπὶ πλεῖον* to the amount or duration. At the end of the chapter *ἐπὶ πλεῖον* certainly means "for a longer time," but in this passage, I think, but am not sure, that *μᾶλλον* refers to the degree of heat, which rises with the previous degree of chill, and *ἐπὶ πλεῖον* to an excess over the original temperature.

Cornford's *ἰσχυκώς* clears away every difficulty of text and of interpretation. 30

Chapter XVII

It may be urged: "But patients feverish with ardent fevers, pneumonia, or other virulent disease, do not quickly lose their temperature, and cold in this case does not come to the rescue against the heat." But this fact I hold to be the strongest testimony that it is not simply through heat that patients are feverish, and that this alone could not be the cause of the harm, but the same thing is both hot and bitter, or hot and acid, or hot and salt, with countless other combinations; and again cold combines with different powers. Now it is these other powers that cause the harm. Heat too is present with it, having the strength of the leading factor, increasing and growing worse along with it, but having no power beyond what is properly its own.

1 The late Professor Cornford sent me the following note. "Must not the objection be:— 'Patients in ardent fever are not relieved quickly by the cold coming spontaneously to counteract the hot? Read: *οὐδὲ πάρεστιν ἐνταῦθα ἐπὶ τὸ θερμὸν* [*ἢ*] *τὸ ψυχρόν*: 'in such cases the cold is not there ready to resist the hot; i.e. your theory of each opposite spontaneously coming to repel its opposite does not work.' The author replies by saying that it is not the hot *only* that is responsible, so the cold cannot drive it out."

6 *εἰη* potential optative without *ἄν*, cf. ch. XX (beginning). It is fairly common in the *Corpus*.

9 *τὸ ἡγεύμενον* is the other factor, and *παροξυνόμενον* refers to *τὸ θερμόν*. The MSS. reading would make heat the directing factor, in contradiction to the argument.

What was the reason for the disparagement of "hot" and "cold" by the author? There are two very possible reasons. It may be that his physician's instinct told him that what we call a "high temperature" was, as it were, the "heat of conflict" between Nature and the disease. Then again, he may have dimly realised that everything is "hot" or "cold," or, as we should say, temperature is a universal characteristic, so that it requires other *δυνάμεις* to differentiate one thing from another.

Chapter XVIII

The truth of this view is plain if we examine the following pieces of testimony. We can take first the more obvious things, which come often and will continue to come within the experience of all of us. In the first place, when we have caught a cold with discharge of mucus through the nostrils, this discharge is generally much more acrid than that which formed there previously and passed every day from the nose; it makes the nostril swell, burning it to an extremely fiery heat, and should you keep putting your hand to it, and the cold last a long time, the place actually ulcers, although it is without flesh and hard. The heat subsides somehow

in the nostril, not when the discharge occurs and the inflammation is there too, but when it flows thicker and less acrid, being matured and more blended than the previous discharge, then, and not before, the burning finally ceases. But when the trouble comes obviously from just the chill alone, being reinforced by nothing else, in every case there is the same alternation, great heat from chill and great chill from heat, these coming to the rescue quickly and needing no coction. In all other cases, however, when acrid and unblended humours come into action, I maintain that the cause is the same, and that restoration results from coction and blending.

διάπυρον cf. *διάθερμος* (ch. XVI). 7

With the reading of Koraes we must translate: "extremely hot, as is shown if you put your hand on it; and if the cold be present etc." But the MSS. reading really gives the better sense, for surely it is the continual friction of rubbing (blowing) the nose that causes it to become ulcered.

συμπαραγενομένου and *παραγίνεται*. See note on Ch. XVI. *χυμῶν*: here "humours," as in XIX, XX and XXIV, but in XIV = "flavour," "taste." 14, 15

Chapter XIX

Again, such discharges as direct themselves to the eyes, since they contain powerful and acrid humours of all kinds, cause ulcers on the eyelids, sometimes eating into the cheeks and into the flesh below the eyes, wherever they happen to flow, and bursting and eating through the covering of the eyeball. But pains, burning and intense inflammation prevail only for a while, only until the discharges have been concocted and thickened, so that rheum forms from them, this coction being the result of mixing, blending and being digested together. Secondly, the discharges that settle in the throat, the source of soreness, angina, red inflammation and pneumonia, all these give out at first salt, watery and acrid fluids, and while this goes on the diseases are at their height; but when the discharges have become thicker, more matured and freed from all acridness, then at last the fever too ceases with the other symptoms that cause the patient pain. But surely we must consider the cause of each illness to be those things the presence of which necessarily brings with it a specific disease, but a change to a different blend of them results in a cure. All conditions, therefore that are the result of heat and cold unalloyed, with no participation in any other power, will cease with the change from hot to cold or from cold to hot, the manner of the change being such as I have described. Furthermore, all other complaints to which man is liable proceed in every case

from powers. For instance, when there has been an efflux of the bitter humour which we call yellow bile, what nausea, burning and weakness grip the patients! But on getting rid of it sometimes by purging, with or without medicine, should the particular remedy be seasonable, they plainly get rid both of the pains and of the heat. So long, however, as the noxious fluid is unsettled, without coction and blending, by no means can the patients be free of the pains and fever. When pungent and acrid acids attack us, what phrenzy occurs, with gnawing of the bowels and of the chest, and what distress! And no relief therefrom can be obtained until the acidity is purged away, or calmed down and mixed with the other humours. Coction, however, change, thinning or thickening into a form of humours through other forms of all kinds—wherefrom both crises and regular periods in a disease derive their great importance—nothing of all these can properly happen in the least degree to heat or cold, for neither could either ferment or thicken. What then are we to call the process? Is it a blending of them, which have a simple power in relation to each other, since the hot will give up its heat by mixture with nothing else except with the cold, and the cold be neutralised only by mixture with the hot. But all the other constituents of man become milder and better the greater the number of the other constituents with which they are mixed. A man is in the best possible condition when there is complete coction and rest, with no particular power manifesting itself plainly. Of these matters I have given, I think, an adequate account.

γνάθος: is here the part of the cheek nearest the nose. 3

The sentence *δεῖ δὲ δήπου . . . κρῆσιν παύεσθαι* gives us our earliest definition of causation. It might almost be taken as a title or text of *Ancient Medicine*. It is quite a good attempt, but leaves out of account the fact that an invariable concomitant may be, not a cause, but a consequence. 14

μετέωρα: "unsettled," i. e. "ranging about," "at large." A difficult word, acquiring a wide range of meanings from its original sense of "aloft," "between earth (sea) and sky." So the heavenly bodies are *τὰ μετέωρα* in ch. I. It is common in the *Corpus*. 16

Cornford was probably right in adding *τι* before *τούτων*, on the ground that *πάσχω* cannot govern a genitive. It is just possible that *πάντων τούτων* is a genitive of comparison depending on *ἥκιστα*, "to a less degree than any of these." Cf. XVI (first line). 24

A communication from Professor Cornford will render unnecessary further comment on this difficult chapter. 25 ff.

"If I understand the argument, the author is contrasting the hot and the cold with the other powers like *πικρότης*, *ὀξύτης* etc. When these other powers cause trouble, relief is obtained from them and the heat which accompanies them either by purging, or by some concoction or thinning and thickening, or by mixture with other powers.

In the case of the hot and the cold, there can be no coction, or thickening or thinning, or transformation through all sorts of varieties of humour. 'The hot and the cold are

the last things that could undergo any such process. Neither can be fermented or thickened.'

τί γὰρ αὐτὸ φήσωμεν εἶναι; 'What are we to call the process in question, the thing?' Plato often uses *αὐτό* in this sense.

It can only be a mixing. That is the only process which the hot and the cold can undergo. They must moreover be mixed with one another, since the hot will give up its heat only when mixed with cold (not with anything else), whereas in the other cases, the more things that are mixed, the better.

The problem is, how to get out of *κρήσιας αὐτῶν ἄλλην πρὸς ἄλληλα ἐχούσας δύναμιν* the sense: 'The process in question must be a mixing of hot with cold, and not with anything else.'

I suspect that **ἄλλην** and the *v. l.* conceal **ἁπλῆν**.

κρῆσις αὐτῶν, ἁπλῆν πρὸς ἄλληλα ἐχόντων δύναμιν. 'A mixture of them (hot and cold), being things which have a simple (uncompounded) power each in relation to the other'—two simple opposites.

The plural *κρήσιας* can hardly be right. Why plural? I suppose that, once *κρήσιας* had got there, *ἐχόντων* was altered to *ἐχούσας* to agree with it (as M has *ἔχουσα* to suit *κρῆσις*).

Anyhow, the sentence is needed where it stands, for the sake of the next sentence explaining that the mixture already mentioned must be a mixture of hot and cold *only*: not like the other mixtures of 'the more the merrier'."

Chapter XX

There are, however, certain physicians and scientists who say that it would be impossible for anyone to know medicine who does not know what man consists of, this knowledge being essential for him who is to give his patients correct medical treatment. The question that they raise, however, is a matter for philosophy, for those who, like Empedocles, have written about natural science, what man is to begin with,[1] how he came into being at the first, and out of what constituents he was constructed. For my part, I consider, first, that all that has been said or written by scientist or physician about natural science has less to do with medicine than it has with the art of writing. Next, I consider that clear knowledge of nature can be derived from no source except from medicine; that it can be learnt when medicine itself has all been correctly comprehended, but till then I am convinced that this knowledge is far from possible—I mean, by this "learning," to know what a man is, through what causes he derives his being, and the rest of it accurately. For this at least about nature I am convinced that a physician must know, and devote himself to knowing, if he is going to do anything of his duty, the nature of man in relation to what he eats and drinks, and in relation to his habits generally, and what

[1] Or, "about natural science from the beginning, what man is."

will be the effect of each on each individual. He must not be content with the unqualified statement that "cheese is a bad food, for it gives a pain to the man who has eaten his fill of it." We must know what the pain is, the reason for the pain and to what constituent of the man cheese is unsuitable. For there are also many other bad foods and bad drinks, which affect men in various ways. Accordingly, I would have the matter put like this: undiluted wine, drunk in large quantity, has a certain effect upon a man. All with this knowledge would realise that such and such a power of wine, and not mere wine itself, is the cause. We know, moreover, through what constituents of a man it chiefly exercises this power. True accuracy of this kind I would like shown in other cases also. Cheese, to take the example I used, does not harm all men alike; there are some who eat their fill without being hurt at all, but when cheese agrees with them are even wonderfully strengthened by it. Others have difficulty in coping with it. So the constitutions of these two classes differ, and the difference lies in the constituent of the body hostile to cheese, being roused by it and stirred to action. Those in whom there happens to be such a humour in greater quantity and with greater mastery in the body, naturally suffer more severely. But were cheese bad for every human constitution, it would have harmed all like. Nobody with a knowledge of these things would make the following mistakes.

σοφισταί. The word is here used in a good sense, "men of science." It is perhaps legitimate to conclude that the author lived before Plato succeeded in degrading it. It is used again later (*σοφιστῇ*). 1

εἴη. This is similar to the potential optative without *ἄν* to be found in ch. XVII. Here however a word expressing potentiality (*δυνατόν*) is actually used; *εἴη δυνατόν* in fact, is equivalent to *ἂν δύναιτο*. 2

The direct influence of Empedocles upon philosophical physics was lasting, and the four elements appear in both Plato's *Timaeus* and Aristotle's *Physics*. Nevertheless his being mentioned by name in the present context is evidence tending to prove that the writer lived not much later than the philosopher's *floruit*. There seems to be no need to transpose *καὶ ὅπως . . . συνεπάγῃ* (with *ἐξ ἀρχῆς*) to the end of the first sentence, although the clauses are equally suitable in the latter position. For *συνεπάγῃ* cf. Anaxagoras *fr.* 4 *καὶ ἀνθρώπους τε συμπαγῆναι*, and Empedocles *fr.* 15, 4 *πρὶν δὲ πάγεν τε βροτοί*. 5

γραφική may be either the "art of writing" or the "art of painting." One is tempted to translate, if the latter be the sense here: "Has no more to do with medicine than it has with painting." See Pohlenz in *Hermes*, Band 53 (1918), pp. 416, 417. 10

Learning about the macrocosm from a study of the microcosm became popular when a reaction set in against the cosmological bias of the earlier philosophers. The clearest example of the tendency is to be seen in Anaxagoras. See p. 14. Perhaps the view was encouraged by the two meanings of *φύσις*, (a) "world stuff," "nature in general," and (b) "human constitution," (= *κατάστασις*). 13

ἐπεὶ τοῦτό γέ μοι δοκεῖ κ. τ. λ. There follows an interesting but very obscure and difficult discussion of the interrelation between man and his food, the constituents of the two (or their δυνάμεις) having to be thoroughly blended for the maintenance of good health. Much of the obscurity arises from the author's efforts to express scientifically phenomena that he is interested in but has not sufficiently analysed. He is a pioneer, feeling his way in a half-explored country. 15

His main contention is clear enough. He sees the dangers of sweeping general statements about food and regimen. E. g.

"Cheese is a bad food."

Such a statement is objected to on the ground that it is untrue without modification (ἁπλῶς). We must add (1) what the pain is that is caused by eating cheese to excess; (2) why the pain is caused, and (3) to what constituent of man cheese is dangerous. All this is clear enough, except (3). What are τὰ ἐν ἀνθρώπῳ ἐνεόντα? The phrase is vague enough to mean almost anything. Fortunately we have a parallel passage in ch. XIV where the expression is made clear by the context: ἑκάστου δὲ πάντων τῶν ἐνεόντων ἡ ἀκμή· ταῦτα γὰρ ἐώρων καὶ ἐν τῷ ἀνθρώπῳ ἐνεόντα καὶ λυμαινόμενα τὸν ἄνθρωπον. So τὰ ἐνεόντα are the sweet and the bitter and the acid, with the rest of the opposite δυνάμεις recognised by the writer.

The general idea is plain, though it would be hard to guess how the author would have answered the three questions about cheese which he declares require to be answered.

οἶνος ἄκρητος . . . τὸν ἄνθρωπον. Instead of answering his three queries the author gives a new formula, which apparently he looks upon as a model. "Neat wine drunk in great quantity puts a man in such and such a condition," πως being a blank cheque to be filled up according to the form the drunkenness may take. 25 ff.

It is difficult to see why the second example is better than: "Much cheese, hastily eaten, gives a man such and such a pain." Unfortunately the sentence following the second example is corrupt in all our MSS., and a satisfactory emendation of the text is far from easy.

Apparently the argument is that a false general statement about cheese is more likely to be made than one about wine. This universal drink no Greek could condemn, while its abuse produces some easily observed effects.

According to the argument, when ill effects follow the use of a food or drink, we must not lay all the blame on what we have taken. This, in and by itself, is not altogether responsible. There is also the personal factor, with its various idiosyncracies, to be taken into account. To maintain a normal condition there must be a satisfactory κρᾶσις of the δυνάμεις of the food on the one hand and those of the individual on the other.

The corrupt sentence could be more easily dealt with—or conceivably be left as it stands—were it possible to adopt Dr. H. J. Chaytor's view (Loeb, I, p. 64) that αὐτός refers not to the wine but to the drinker. He would translate: "This δύναμις of wine and the man himself are to blame." But αὐτός can scarcely stand for a δύναμις (or δυνάμεις) of a man's constituents, and far more naturally refers to the wine. As the author's main contention is that no food, in and by itself, is αἴτιος, I have ventured to emend as in the text.

There is an attractive vigour about ἰδόντες and it may be the right reading; in the case of the drunken man one can see the truth "at a glance." It is hard to say why the second example makes it easier to answer the second and third queries, but the first query becomes very easy.

χαλεπῶς ἀπαλλάσσουσι. In spite of the Lexica this phrase does seem to mean "find hard of digestion." 32

φύσιες. See an earlier note on this chapter. 33

διαφέρουσιν δὲ κατὰ τοῦτο . . . εἰκός. These two sentences really tell us no more than 33-36

was given in the three queries: ἀλλὰ τίνα τε πόνον . . . ἀνεπιτήδειον. "The constituent hostile to cheese" is no more informative than "the constituent of man to which cheese is unsuitable."

For this chapter and its supposed relation to *Phaedrus* 270 c, d, see p. 18 f.

Chapter XXI

In recovery from illness, as well as in illnesses of long duration, many disorders occur, some spontaneously, some too from such things as may have been administered. And I know that most physicians, like laymen, if the sufferers chance to have done anything unusual about the time of the disorder—taken a bath or a walk, or eaten something strange, even if all these things are better done than omitted—none the less refer the cause to one of them, not knowing the real cause but depriving the patient of what, perchance, is most beneficial. They should not act so, but should know what will be the effect of an unseasonable bath or of fatigue. Either of these brings its own particular mischief, and the same applies to surfeit and to food of various sorts. Whoever then will not know how these things severally affect a man, will be able neither to learn their consequences nor to use them correctly.

In this chapter the author adds the warning that *post hoc* is not necessarily *propter hoc*. For example, should a convalescent get a headache after a walk, it must not immediately be inferred that the walk was the cause. We must rather inquire what the effect really is of a walk which taxes the strength, i. e. we must discover what is the true consequence, and not be content with the apparent consequence.

The μή shows that this clause is part of the condition, although it needs a subjunctive verb. Perhaps ᾖ has fallen out before ἤ. 6

Chapter XXII

I am further convinced that it is necessary to know what sufferings come to a man from powers and what from shapes. I mean, roughly, by "power" an extreme strength of a humour; by "shapes" the various forms to be found among the parts of the body, some hollow and tapering from broad to narrow, some extended, some hard and round, some broad and suspended, some stretched, some long, some of close texture, some of loose texture and fleshy, some spongy and porous. Now which shape would be best able to attract to itself and draw moisture from the rest of the body, the hollow and extended, the hard and round, or the hollow and tapering from broad to narrow? I am of opinion that it is the shape that

narrows from a broad hollow. These things ought to be learnt from objects external to man that can be seen. For instance, if you have opened your mouth wide you will draw up no liquid; but if you protrude and contract it, compress the lips and then place a tube between them, you would easily draw up whatever you wish. Again, cupping instruments, which taper from broad to narrow, have been so constructed on purpose to attract and draw fluid from the flesh, and there are many other examples of a like nature. Of man's internal organs a similar shape is seen in the bladder and the head, and in the womb of women. These obviously exert a powerful attractive force, and are always full of fluid from outside. Hollow and extended organs will be the best adapted of all to admit moisture that has flowed on them, but will attract it not so well. Hard and round organs will neither attract fluid nor admit it when it has flowed on them; for it would slip off, having no resting place on which to remain. Spongy and porous organs, like the spleen, the lungs and the breasts, will drink up most readily what is in touch with them, and these will harden most and increase in size on the addition of fluid. They will not be emptied each day, as is the belly, in which is the fluid, the belly itself surrounding it on the outside, but when such an organ has drunk the fluid and admitted it to itself, the porous hollows are everywhere filled, even the small ones, and instead of being soft and porous ⟨the spleen⟩ becomes hard and close, neither digesting nor discharging. The reason that this happens to it lies in the nature of its shape.[1] All that produces wind and flatulent colic in the body is apt to create noise and rumbling in the hollow, broad parts, such as the belly and the chest. For whenever the wind does not fill up the part so as to come to rest, but shifts and changes its place, noise and perceptible motions are inevitably caused by it. In such parts as are fleshy and soft arise numbness and obstructions, such as occur in apoplexy. When, however, flatulence meets a broad, resisting surface, and dashes against it, should the surface be by nature neither strong enough to endure the violence without suffering any ill effects, nor soft and porous so as to yield and admit it, but tender, fleshy, full of blood, and of close texture, like the liver, it resists without yielding because of its close texture and breadth, but the flatulence, being checked, increases and grows stronger, and dashes with force against the obstacle. And because the part is tender and contains blood, it cannot be free from pains, and for these reasons very acute and frequent pains occur about this region, abscesses and tumours being very common. Violent pain also occurs under the diaphragm, but

[1] Or "structure."

it is much less. For the expanse of the diaphragm is broad and resistant, and it is of a stronger and more sinewy nature, so that it is less liable to 50
pain. But in this region too occur both pains and tumours.

In chapter XIX we were told that all diseases to which man is liable come from 2
"powers." The present chapter seems to contradict this statement, but does not really do so. All diseases are caused by powers, but the symptoms (*παθήματα*) may be modified by the *σχήματα* of the organs of the body.

The passage beginning *καταμανθάνειν δὲ δεῖ* is fully discussed by G. Senn in his essay 11, 12
Über Herkunft und Stil der Beschreibungen von Experimenten im Corpus Hippocraticum, pp. 231, 261, 264, 267, 277, 279, 280. What is described is an analogy rather than an experiment, and indicates the slight importance attached to experimentation by the early Greek scientists. See p. 44. Senn thinks that the passage is possibly borrowed from the Pythagoreans, chiefly because of the style. The evidence he brings forward is flimsy, as the reading *ἀνασπάσεις*, on which he relies, although very probable, is not certain.

The emendation of the corrupt MS. tradition, *ἀποσφαγίσι* or *ἀποσφαγείσι*, is somewhat 38
difficult. The suggestion of Koraes, *ἀποφραγείσι*, "stopped up," is near the manuscript reading but tautological; Littré's *ἀποπληγείσι* may perhaps be defended by *Breaths* XIII, where apoplexy is said to be caused by *φῦσαι* puffing up a part or parts of the body. This is possibly referred to in *πληρώματα* lit. "fulnesses."

Chapter XXIII

There are many other forms of shapes both within and without the body, which differ greatly from one another in the effects they have upon a man, whether he be sick or well; for example, whether the head be small or large, the neck thin or thick, long or short, the belly long or round, the chest and ribs broad or narrow, and countless things besides, the differ- 5
ences between which must all be known, so that through the knowledge of the causes of each there may be taken proper precautions.

The strange phrase *εἴδεα σχημάτων* seems to be a mere pleonasm for *εἴδεα* or *σχήματα*, 1
without any particular scientific or philosophical significance. See Taylor, *V. S.*, p. 217.

Chapter XXIV

As I have already said, an examination must be made into the powers of humours, what the effect of each is upon a man, and how they are related to one another. Here is an example. If a humour that is sweet, changes into another form, not by combination but by spontaneous change, into what would it be most likely to turn first: bitter, salt, astringent or acid? Acid, I believe. Therefore acid humour would be more unsuitable to administer than any other, in cases where the sweet is the most suitable

of all. If a man can thus successfully conduct research outside the human body, he will also be able always to pick out the very best treatment. And the best is always the farthest removed from the unsuitable.

The infinitive *ἐσκέφθαι* is used imperatively, as often in the *Corpus*, though this is the only example in *A. M.* The reference in *ὥσπερ καὶ πρότερον εἴρηται* is apparently to chapters XIV and XV. 1

We learn from the example given, *εἰ γλυκὺς χυμὸς . . . οἷμαι μὲν ὀξύς*, that the humours are not elemental, since they can change into one another spontaneously. The principle supposed to regulate these changes cannot be discovered; but sweet's changing into acid may have been suggested by e. g. wine's changing into vinegar, or by certain sweet fruits' becoming acid when cooked. 3

ADDITIONAL NOTES

A

CHAPTERS XX-XXIV

Ancient Medicine proper ends with chapter XIX. The attack on misplaced philosophy is over; the ancient and approved method has been explained and illustrated; *περὶ μὲν οὖν τούτων ἱκανῶς μοι ἐπιδεδεῖχθαι* is a natural close. But there follow five chapters:—

(1) XX deals chiefly with what might be called the converse of the introductory polemic, namely with the beneficial influence medical science might exert on natural philosophy.

(2) XXI is a warning not to confuse in medical practice *post hoc* and *propter hoc*.

(3) XXII begins with an apparent contradiction of the sentence *ἔτι τοίνυν . . . ἀπὸ δυναμίων γίνεται* in XIX, and goes on to explain the part played by the structure of the internal organs in physiology and morbid pathology.

(4) XXIII briefly notes the medical importance of "other forms of structures, both internal and external."

(5) XXIV reverts to the humours, pointing out that a humour may spontaneously change to another, but not at hap-hazard.

Now it was not unusual for an ancient librarian or bookseller to add odd scraps to the end of a papyrus roll, especially if the two were similar in subject matter, either, as Littré remarks after Galen, "pour grossir le volume," or because he had nowhere else to put them, but considered them too valuable to be destroyed. The *Corpus* affords many examples of such additions, and the question arises whether the end of *Ancient Medicine* is not to be accounted for in the same way, especially in view of the discrepancy between XIX and XXII. There are, however, several objections.

(1) All five chapters are very pertinent to the themes of chapters I-XIX.

(2) There is one medical background and tone throughout the work as it stands in our manuscripts.

(3) The diction of these five chapters is similar to that of the rest of the work.

In XX *καταμανθάνω, περιλαμβάνω, τὰ ἐν τῷ ἀνθρώπῳ ἐνεόντα, χαλεπῶς ἀπαλλάσσω, βρῶμα, δυναστεύω* (compounded with *ἐν-*), *κακοπαθῶ, λυμαίνομαι.*

XXI *ἀπὸ ταὐτομάτου, ἰδιώτης, ἑτεροῖος, κακοπαθίη, πλήρωσις, βρῶμα.* The phrase *τοῖος ἢ τοῖος* is found again in XIV (the only references in Heiberg's index).

XXII *καταμανθάνω*, two instances of the author's favourite figure, *hysteron proteron*, *ἰσχύς* and *ἰσχυρός*, a definition of *δύναμις, φῦσα, καταφανής, τοῦτο μὲν . . . τοῦτο δέ*, and five abstract substantives in *-της*. These numerous examples occur in the very chapter against which a positive objection can be made, namely that it appears to contradict XIX.

XXIII This chapter is connected closely with XXII in thought, and contains the phrases *εἴδεα σχημάτων* and *ἄλλα μυρία*.

XXIV *περὶ δυναμίων χυμῶν, γλυκὺς χυμός* (*πικρός, ἁλμυρός, στρυφνός, ὀξύς*).

If these chapters are not casual additions, but were written by the author himself, why are they placed at the end? The reason is that an ancient author, owing to the form of a papyrus roll, could not use footnotes. Annotations had to be interwoven into the text, or else collected and added as appendices or excursuses.

Of the four additions to *Ancient Medicine* two are comparatively unimportant. But the chapter on structures shows that the author is honest enough to qualify a general statement when he realises that it is too sweeping, and the first addition introduces the question of a possible connection between medicine and biology. The author makes the interesting suggestion that scientists must build up from below, must advance from observed physiological phenomena to speculative biological theory, and not *vice-versa*.

B

The Style and Diction of *Ancient Medicine*.

The style of *Ancient Medicine* is simple and clear; such difficulties as occur are in the thought rather than in the language. The author adopts a periodic structure without the artificialities that are associated with sophistic rhetoric. Here and there occur a few touches which are very mildly rhetorical, so mildly indeed that they are likely to be unnoticed by anyone who is not on the look-out for them.[1] Neither eloquence nor tricks of style found favour with a defender of positive science who was desperately in earnest.

The author has several "pet" words, two of which, from their importance, will require special notes. These pet words and phrases sometimes occur close together in a kind of group, partly no doubt because of the nature of the context, but also partly because a word or phrase once used consciously, tends to suggest itself unconsciously to the mind for some time afterwards. Thus *ἐπὶ πλεῖον* occurs three times in ch. XVI but nowhere else. *κρατῶ* and *ἐπικρατῶ* in the sense of "digest," out of a total of 9 instances, are found 7 times between III and VII, and *πάρειμι* and *παραγίγνομαι* (with the sense, as in the Latin *adsum*, of "a present help") make all their appearances (7) between ch. XVI and XVIII.

Words to denote the process of digestion are not unnaturally rather numerous. Besides the two given above we have *πέσσω* or *πέψις* (3), *ἀναλίσκω* or *καταναλίσκω* (3), *ἐμπίπτω* or *ἐσπίπτω* (2), *ἀπολαύω* and *ἀπόλαυσις* (3 times within about 12 lines) *ῥᾳδίως ἀπαλλάσσω* or *ἀπαλλάσσομαι* (2).

The word *ἕτερος* is often found where perhaps another writer would have used *ἄλλος*; *ἑτεροῖος* occurs 3 times and *ἑτεροιοῦμαι* once.

The compound *καταμανθάνω* occurs 6 times and *καταφανής* 7. The latter is not to be found except in *Ancient Medicine* among the works included in the first volume of the *Corpus Medicorum Graecorum*, but it occurs in the suspected chapter XXII.

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[1] Several instances occur of the figure *hysteron proteron* (III, XIII, XVI), including two (*μεταβολάς τε καὶ κινήσιας* and *ἐκδέξασθαί τε καὶ ὑπεῖξαι*) in a chapter (XXII) supposed to be an addition.

The adjective *ἰσχυρός* and its cognates (*ἰσχυρῶς*, *ἰσχύς* and *ἰσχύω*) occurs 36 times. They seemed to the author to be the best words to express the idea of intensity, or degree, as distinguished from bulk or size, which played so important a part in his theory of health and disease. By constant repetition he hopes, unconsciously perhaps, to drive home his point that the over-bitter, the over-acid and so on, are the real enemies of man's health. It is interesting that he does not use the adjective to qualify *δύναμις*, though he does to qualify *δριμύτητες* (XIX); three times, however, he calls a power or powers, "great" (*μεγάλας* in III, *μεγάλαι* in XIV and *μεγάλην* in XV).

In the use of special terminology he is a little vague and (apparently) inconsistent. The term most free from haziness is perhaps *τὸ ἰσχυρόν*, intensity (*ἀκμή*) as opposed to bulk or member (*πλῆθος*). See V (bulk) and XIV (number).

C

Εἶδος.

Professor A. E. Taylor has shown in his *Varia Socratica*[1] that this very elusive word has in fifth-century science, perhaps through the influence of Pythagorean mathematics, the sense of *φύσις*, an ultimate simple body, its "structure" or "form." This is generally its meaning in *Ancient Medicine*, though in one place (ch. VII) it seems to be equivalent to "appearance," as opposed to reality. In two others it is pleonastic, for *ἐς χυμῶν εἶδος* (XIX) is the same as *ἐς χυμόν*, and *εἴδεα σχημάτων* (XXIII) is equivalent to *σχήματα*.

The relations of *εἶδος* in this work to *χυμοί*, *τὸ ψυχρόν*, *τὸ θερμόν* etc., and to *δύναμις*, are not precisely defined. In XV *τὸ ψυχρόν* etc. are *εἴδη*; in XXIV a *χυμός* is an *εἶδος*; in XVII *τὸ ψυχρόν* is a *δύναμις* (as it is in Alcmaeon), but in XV *τὸ θερμόν has* a *δύναμις*.

What however is quite free from doubt is that the *εἴδη* of *Ancient Medicine* are not the Platonic *εἴδη*, eternal, changeless and transcendental, for certain *εἴδη* are not to be found isolated (XV), and *εἴδη* can change into other *εἴδη* (XIX and XXIV). In other words, the author is interested in *φαινόμενα* and not in *ὄντα*; nowhere does he admit a changeless real.

D

Δύναμις and the Humours.

The word *δύναμις*, besides its ordinary meaning of "strength" or "force" and its Aristotelian meaning of "potentiality" as opposed to "actuality," has in the scientific writings of the fifth century B. C. a special and technical signification, which for modern minds at least is not easy to understand.

A really existent entity, any truly real thing, manifests its nature (*φύσις*) to our perceptive faculties through its *δύναμις*, or perhaps its *δυνάμεις*. A *δύναμις* is a property of a body considered as having the power to act or be acted upon, or, as Plato puts it in the *Phaedrus* (270 c, d), the *φύσις* of a thing may be discovered by examining its power of *ποιεῖν* and *πάσχειν*.

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[1] Pp. 178-267. The examples of *εἶδος* are discussed in pp. 214-218. See C. M. Gillespie in *Classical Quarterly*, VI (July, 1912), pp. 179-203, on *εἶδος* and *ἰδέα* in Hippocrates.

English equivalents are imperfect. "Quality," "property," "characteristic," have all been suggested. "Essential characteristic" is nearer still, but even this fails to bring out the idea of action associated with the word.

In *Nature of Man* V we have δύναμις in close connection with ἰδέη and φύσις, scientific words denoting reality, while in *Regimen* I, iii the δυνάμεις of fire and water are said to be force and nutritiveness.

It is difficult to determine when, and how far, a δύναμις came to be regarded as an abstraction.

A distinction betwen abstract and concrete was rendered more difficult for a Greek by the linguistic peculiarity that made τὸ θερμόν practically the equivalent of θερμότης; yet an early Greek seems, unconsciously at least, to have detached in thought from their material embodiments such concepts as φιλότης, φόβος, πρᾶξις, ἀρετή, all of which occur in Homer. An opposing factor was the strong tendency to personify, and two aiding factors were (a) the early study of mathematics and (b) the later attention paid to general definitions, particularly by Socrates.

But it is one thing to be intellectually able to make an abstraction, and another to attach to that abstraction real existence, as Aristotle assures us Plato did to the generalisations of Socrates.

So Burnet is probably correct when, speaking of the Love and Strife of Empedocles, he says[1] that "nothing incorporeal had yet been dreamt of," using later on[2] similar language of the Mind of Anaxagoras.

The writer of *Ancient Medicine* seems to have taken his conception of δύναμις from Alcmaeon.[3] He uses the word twenty times.

(1) Certain foods of primitive man are desribed as ὠμά τε καὶ μεγάλας δυνάμιας ἔχοντα (Ch. III).

(2) In the same chapter he speaks of the φύσιν τε καὶ δύναμιν of man.

(3) Bread is said to be prepared from wheat by the addition and the subtraction of things which have a δύναμιν καὶ φύσιν of their own (Ch. XIII).

(4) The δυνάμεις of bread and barley-cake are said to be μεγάλαι, and οὐδὲν ἡ ἑτέρη τῇ ἑτέρῃ ἐοικυῖα (Ch. XIV).

(5) The constituents of man are the salt, the bitter, the sweet etc. καὶ ἄλλα μυρία παντοίας δυνάμιας ἔχοντα πλῆθός τε καὶ ἰσχύν. In other words, the opposites of Alcmaeon have powers (Ch. XIV).

(6) From the usual foods arises no isolation of the powers resident in the body, ἀπόκρισις τῶν ἀμφὶ τὸ σῶμα δυναμίων (Ch. XIV).

(7) Things are hot and astringent, or cold and astringent, or hot and insipid, or hot and flatulent-producing; ἔστι γὰρ καὶ ἄλλα πολλὰ θερμὰ καὶ ἄλλας δυνάμιας ἔχοντα ἐωυτοῖς ὑπεναντίας where the opposites are said to possess powers (Ch. XV).
(Alcmaeon said that the opposites *were* powers. So *A. M.* XVII).

(8) It is not τὸ θερμόν that possesses τὴν μεγάλην δύναμιν, but τὸ στρυφνόν, τὸ πλαδαρόν etc., where the opposites again are said to possess powers (Ch. XV).

(9) ψυχρότης and θερμότης have less power in the body than any of the powers (Ch. XVI).

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[1] *Early Greek Philosophy*[4], p. 232.

[2] P. 268.

[3] See fr. 4 (22) Diels: Ἀλκμαίων τῆς μὲν ὑγιείας εἶναι συνεκτικὴν τὴν ἰσονομίαν τῶν δυνάμεων, ὑγροῦ, ξηροῦ, ψυχροῦ, θερμοῦ, πικροῦ, γλυκέος καὶ τῶν λοιπῶν.

(10) Cold quickly supervenes upon heat, spontaneously annulling its δύναμις (Ch. XVI).

(11) Cold combines with δυναμίων ἑτέρων (Ch. XVII).

(12) τὸ θερμόν is active in continuous fevers ἔχον . . . δύναμιν οὐδεμίην πλείω τῆς προσηκούσης (Ch. XVII).

(13) All conditions which result from θέρμη or ψῦξις pure and simple, uncombined with any other δύναμις, come to an end when the usual interchange of hot and cold occurs (Ch. XIX).

(14) All human complaints result ἀπὸ δυναμίων (Ch. XIX).

(15) A blend of hot and cold have a simple δύναμις in relation to each other (Ch. XIX).

(16) A man is at his best when there is complete blending and rest, μηδεμίην δύναμιν ἰδίην ἀποδεικνύμενον (Ch. XIX).

(17) It is a δύναμις of wine which makes a man drunk (Ch. XX).

(18) All illnesses spring ἀπὸ δυναμίων or ἀπὸ σχημάτων.

(19) By a δύναμις is meant an intensity and strength of the humours (Ch. XXII). (The writer probably refers wholly or mainly to δύναμις as used in this context).

(20) The δυνάμεις of humours must be examined and their relations noted. A sweet humour can spontaneously change into an acid (XXIV).

(So the humours are not looked upon as elemental).

These passages show that in the eyes of the writer:

(1) a δύναμις is a manifestation of a φύσις;

(2) for health there must be a blending of the δυνάμεις in the body, none being obtrusive;

(3) heat and cold are δυνάμεις, but comparatively unimportant as far as health is concerned;

(4) δυνάμεις seem sometimes abstract (5, 7, 8, 9, 12, 19) and sometimes concrete (6, 14, 16, 20). Some of these, and all the other ten, are doubtful.

We must now consider the relation of δυνάμεις to the χυμοί, of which the famous Hippocratic "humours" were four. Between the two is a kind of "half-way" house in the opposites, expressed by the author of *Ancient Medicine*, after Alcmaeon, by the terms τὸ πικρόν, τὸ γλυκύ, τὸ ὀξύ, and so on, but we must not expect in this work the exactness and clarity that we expect, and find, in Plato and Aristotle. The author is, to all seeming, somewhat loose in his use of terms, very much as though he were writing a popular work, and not a scientific treatise. Perhaps he was not conscious of inconsistencies; perhaps he felt that, as far as his purpose was concerned, they did not matter.

(1) First we have χολή, a "humour," concrete, material and real, called πικρότης τις in ch. XIX.

(2) Then comes τὸ πικρόν and similar neuters:

(a) equivalent to (1), e.g. ἔνι γὰρ ἐν ἀνθρώπῳ καὶ ἁλμυρὸν καὶ πικρὸν καὶ γλυκύ . . . καὶ ἄλλα μυρία παντοίας δυνάμιας ἔχοντα (ch. XIV);

(b) less substantial and almost abstract, e.g. οὐ γὰρ τὸ ξηρὸν οὐδὲ τὸ ὑγρὸν οὐδὲ τὸ θερμὸν . . . ἰσχυρότατον δ' ἐστὶ τοῦ μὲν γλυκέος τὸ γλυκύτατον,

τοῦ δὲ πικροῦ τὸ πικρότατον κ.τ.λ. (XIV), and XV (beginning) especially προστιθέασι δὲ τῷ μὲν εἶναι θερμῷ, κ.τ.λ.

(3) δύναμις:

(a) almost the same as (2) (b) but rather more concrete, e.g. all illnesses ἀπὸ δυναμίων γίνεται (XIX), and ἀπόκρισις τῶν ἀμφὶ τὸ σῶμα δυναμίων (XIV);

(b) abstract, e.g. οὐ γὰρ τὸ θερμόν ἐστι τὴν μεγάλην δύναμιν ἔχον ἀλλὰ τὸ στρυφνόν κ.τ.λ. (XV) and the definition of δύναμις in XXII, λέγω . . . δύναμιν μὲν εἶναι τῶν χυμῶν τὰς ἀκρότητάς τε καὶ ἰσχύν.

There is thus a scale of meanings from material humours to abstract powers, with some inconsistency in the use of terms. In chapters XVI to XIX inclusive the author shows a tendency to use abstract nouns: πικρότης, δριμύτης, θέρμη, ψῦξις, θερμότης, ψυχρότης. Of these πικρότης τις (XIX) is concrete, equivalent to χολή, and δριμύτης definitely abstract in χυμῶν δριμύτητας καὶ ἀκρησίας (XVIII).

Of the four traditional humours[4] two at least, φλέγμα and χολή, are recognised, but in XIX ἣν δὴ χολὴν ξανθὴν καλέομεν shows by the subdivision an approach to the later four. Blood (αἷμα) is not mentioned at all.

A harmonious blending of powers is called κρῆσις by the author of *Ancient Medicine*. He probably took over the word from Alcmaeon,[5] who called health the ἰσονομία of an indefinite number of opposites, and disease the μοναρχία of one of the extremes. The process of which κρᾶσις is the result is generally called πέψις, "coction" or "digestion."

The most cultured Greek physicians—the doctrine cannot be limited to any one school, although its firmest hold was perhaps on the Coan—looked upon a serious illness as an ἀγών, a struggle between the cause, whatever that was, and the healing power of Nature as manifested in the constitution (φύσις) of the individual patient. After a time occurred the κρίσις (judgment), by which the ἀγών was decided, for the time being at least; for there might occur a relapse (ὑποστροφή), followed perhaps by another κρίσις.

"Crises" took place on what were called κριτικαὶ ἡμέραι, that is, on one or more days in a series with fixed intervals. Galen thought that Hippocrates himself was the first to discuss the critical days; the origin of the belief in them may be due to clinical observation of the periodicity of malaria, reinforced by the Pythagorean belief in the mystical powers of numbers.

E

Ancient Medicine X-XII and *Regimen in Acute Diseases* XXVIII-XXX

The main subject treated in both these passages is the ill effects resulting from suddenly changing from one to two meals a day or *vice-versa*. The likeness of the one to the other is not confined to the general argument; the structure of many sentences and the diction are remarkably similar.

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[4] Phlegm, blood, yellow bile, black bile, probably suggested by symptoms of the most common diseases in ancient Greece, chest complaints and malaria.

[5] Fr. 4 (22) Diels: τὴν δὲ ὑγείαν τὴν σύμμετρον τῶν ποιῶν κρᾶσιν. The word often approaches the modern conception of chemical combination as opposed to mechanical mixture (μῖξις).

In order to understand the problem presented by these similarities the one passage should be carefully compared, sentence by sentence, with the other. Only by such comparison can a fair judgment be formed about the true connection between them. A few sentences, however, where the likeness is very close, shall be given here.

ἢν ἀριστῆν μεμαθηκώς τις . . . μὴ ἀριστήσῃ . . . ἀδυναμίη δεινή, τρόμος ἀψυχίη· ἐπὶ τούτοις ὀφθαλμοὶ κοῖλοι, οὖρον χλωρότερον καὶ θερμότερον, στόμα πικρόν, καὶ τὰ σπλάγχνα δοκέει οἱ κρέμασθαι, σκοτοδινίη, δυσθυμίη, δυσεργίη . . . ταῦτα δὲ αὐτὰ μετὰ στρόφου καὶ ψόφου καταβαίνοντα συγκαίει τὴν κοιλίην. (*A. M.* X).

οἱ μεμαθηκότες δὶς σιτεῖσθαι τῆς ἡμέρης, ἢν μὴ ἀριστήσωσιν, ἀσθενέες καὶ ἄρρωστοί εἰσι καὶ δειλοὶ ἐς πᾶν ἔργον καὶ καρδιαλγέες· κρέμασθαι γὰρ αὐτοῖσι δοκεῖ τὰ σπλάγχνα, καὶ οὐρέουσι θερμὸν καὶ χλωρόν, καὶ ἡ ἄφοδος συγκαίεται. ἔστι δ' οἷσι καὶ τὸ στόμα πικραίνεται καὶ οἱ ὀφθαλμοὶ κοιλαίνονται. (*Reg. Ac. Dis* XXX.)

The closeness of the resemblance is obvious, but it is not the closeness due to a writer's having before him the passage which he is borrowing. For although some striking words, e. g. *κρέμασθαι τὰ σπλάγχνα* and *συγκαίει* (*συγκαίεται*) are common to both, in many other cases a phrase in one is represented in the other by a cognate expression or a paraphrase.

ἀδυναμίη δεινή) (*ἀσθενέες καὶ ἄρρωστοι*
ὀφθαλμοὶ κοῖλοι) (*οἱ ὀφθαλμοὶ κοιλαίνονται*
οὖρον χλωρότερον καὶ θερμότερον) (*οὐρέουσι θερμὸν καὶ χλωρόν*
στόμα πικρόν) (*τὸ στόμα πικραίνεται*
ταῦτα . . . μετὰ στρόφου καὶ ψόφου καταβαίνοντα) (*ἡ ἄφοδος*

Such correspondences and differences seem most likely to be due to either:—

(a) the same writer, composing at different times;

or (b) one author who has made a close study of another, and is using the material of the latter but relying on his memory.

The former alternative is not very probable, as there is no striking similarity of style between the two works, nor any support to be derived from the evidence of antiquity.

On the other hand there does seem to be internal evidence that the writer of *Ancient Medicine* had made a close study of *Regimen in Acute Diseases* (or possibly the other way round) just as *Sacred Disease* appears to be related to *Airs, Waters, Places.*[1]

Besides the close correspondence noted above of *A. M.* X-XII to *R. A. D.* XXVII-XXX, we can see several interesting connections, mainly verbal, between the two works.

There is first of all, the interest of both authors in diet, especially in diet for the sick (*ῥυφήματα*). It was natural for one to study the writings of the other, and to pay great attention to the details of preparing food.

Then we find a few words, rare elsewhere in the *Corpus*, which are common to *A. M.* and *R. A. D.* There is *γνιόω* in the sense of "I weaken"; *μονοσιτῶ, δημότης* and *τοῖος ἢ τοῖος*. The vocabularies of the two works, however, are not generally

[1] See Loeb, *Hippocrates*, II, pp. 129-132.

similar, and the pet words of *A. M.* (δύναμις, ἰσχυρός etc.) are by no means pet words of the other.

Perhaps the most interesting linguistic link is the use of μετέωρος (*A. M.*) and μετεωρίζω (*R. A. D.*) in rather difficult senses. Curiously enough, both the passages referred to (*A. M.* XIX and *R. A. D.* LXI) treat of disorders caused by "bitter" humours.

In the *Introduction* I have briefly discussed what is perhaps the most startling of all the linguistic links between the two works, the use of the adjective ἀρχαῖος to describe a school of medical thought. If this be other than a strange coincidence, Wanner's opinion that *A. M.* is Cnidian receives strong confirmation.

We can sum up by saying that there is certainly a very close relationship between the two works. If we go further, and try to find out the exact nature of this relationship, we can only say that there is a slight probability that the author of *A. M.* was a careful student of *R. A. D.*, without, however, excluding the possibility that this relationship must be reversed, or even that of identity of authorship.

Fritz Steckerl in *Classical Philology* for July 1945, pp. 166-180, has an interesting paper, *Plato, Hippocrates, and the Menon Papyrus.*

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Steckerl takes no notice of several important *data*, e. g. the very slight external evidence in support of his conclusion, which, however, is much the same as Littré's. On the other hand, he has done good service in calling attention to the importance of φῦσα in *A. M.* Few can doubt after reading Steckerl's article, that *A. M.*, if not written by Hippocrates, is at least full of Hippocratic doctrine.

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